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TELECOMMUNICATIONS POLICY,
RESEARCH AND DEVELOPMENT



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16 April 1985

WORLDWIDE REPORT
TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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EAST-WEST MEDIA MEETING HELD IN THE HAGUE

PM201251 Moscow IZVESTIYA in Russian 20 Mar 85 Morning Edition p 5

[TASS report: "Constructive Discussion"]

[Text] The Hague, 19 Mar -- On the initiative of the private Netherlands organization the Alerdinck Foundation, a discussion meeting of representatives of the mass media from a number of countries was held in the Netherlands devoted to East-West relations. V.V. Lomeyko, member of the USSR Foreign Ministry Collegium and chief of the Foreign Ministry Press Department, and An. A. Gromyko, corresponding member of the USSR Academy of Sciences and director of the USSR Academy of Sciences Africa Institute, took part in the meeting.

A communique issued by the Alerdinck Foundation described the 2-day meeting as exceptionally constructive. In a relaxed atmosphere, journalists and other representatives of the mass media exchanged opinions on topical questions of international relations and discussed ways of strengthening confidence in the interests of preserving peace. The Soviet participants in the meeting took part in a debate on Netherlands television. They set forth the fundamentals of the peace-loving Soviet foreign policy and answered a number of questions. The Alerdinck Foundation is planning to hold regular unofficial East-West meetings between journalists.

CSO: 5500/1017

WORLDWIDE AFFAIRS

MINISTER ON FRG-GDR TELECOMMUNICATIONS AGREEMENT

LD151903 Hamburg DPA in German 1117 GMT 15 Mar 85

[Excerpts] Bonn, 15 Mar (DPA) -- Two agreements were signed by the Federal Republic and the GDR today providing for the laying of a fiber optics cable and the establishment of a digital radio link between the Federal Republic and West Berlin. Federal Minister of Posts and Telecommunications Christian Schwarz-Schilling, who explained the agreements together with the Federal Government's Berlin representative, Peter Lorenz, described the agreements signed after 11 rounds of negotiation, as "a great stride for the Federal post office." The minister said the new connections were intended to ensure the long-term smooth functioning of telephone traffic with Berlin in view of the heavy demand. The radio link, which goes from Garzow in Lower Saxony to Berlin by way of three relay towers in the GDR, will come into operation 30 June 1986, and the fiber optics cable, which will be laid from Uelzen through the GDR to Berlin, will start operating a year later. For 211 km of its length it will pass through the GDR.

The Federal Post Office is supplying the technical equipment for the two connections to the GDR free of charge. For the laying of the fiber optics cable the Federal Republic is paying DM35 million, and for the equipping of the radio towers in the GDR DM4.5 million. The fiber optics link will open in 1987 with a capacity of 30,000 telephone connections, and when fully operational will have over 60,000 connections. The radio link will have a capacity of about 2,000 telephone connections.

The GDR will receive altogether DM6.5 million yearly for operating and maintaining the cable and radio links. Schwarz-Schilling pointed out that this is way below the usual international rates for rented lines, which would total DM32 million. At present, 23,000 telephone connections and 8 television channels are in operation in the telephone traffic to and from West Berlin. At the news conference Schwarz-Schilling pointed to the many improvements it has been possible to introduce recently on the basis of agreements with the GDR. The GDR has switched on the agreed additional 96 telephone lines and the four telex lines on schedule, so that there are now a total of 1,517 telephone lines and 130 telex lines between the Federal Republic and the GDR. As agreed, the GDR has made a further 240 local telephone exchange areas available to STD [subscriber trunk dialing] so that now about 95 percent of all telephone calls to the GDR can be STD calls.

CSO: 5500/3027

JAPAN

SATELLITE OPENS MILITARY TELEPHONE LINK

OW180409 Tokyo KYODO in English 0351 GMT 18 Mar 85

[Text] Tokyo, 18 Mar (KYODO)--The controversial use of the Sakura 2 communications satellite by the Self-Defense Forces started Monday when it opened telephone links between the defense agency here and the base on Iwo Jima, the island about 1,200 kilometers away in the Pacific.

Maritime chief of staff Manabu Yoshida talked from his desk at the agency to men on the island on the telephone in a brief ceremony to mark the line opening.

Preparations for the use of the communications satellite for defense purposes began after the government announcement of its "unified view" in August 1983 that such use did not contradict the 1969 Diet resolution.

The resolution adopted in May of that year said that "utilization of space" must be restricted to peaceful purposes.

The defense agency was given a budgetary allocation of 218 million yen for the current fiscal year ending this month for the construction of necessary facilities to open the satellite communications.

Lying 700 nautical miles away from Honshu, Iwo Jima bears a strategic significance for the defense agency's plan to expand Japan's defense of shipping lanes to 1,000 nautical miles from its shores.

At present, about 180 maritime and 100 air self-defense force members are stationed on the island which has a 2,650-meter air strip. MSDF's [Maritime Self-Defense Force] P2J patrol aircraft and ASDF's [Air Self-Defense Force] F-4 Phantom jets have also been deployed.

CSO: 5500/4517

JAPAN

TELECOMMUNICATIONS TEAM LEAVES FOR U.S., UK

OW130323 Tokyo KYODO in English 0313 GMT 13 Mar 85

[Text] Tokyo, 13 Mar (KYODO)--Representatives of Japan's National Space Development Agency and Japan Broadcasting Corp. (NHK) left for the United States Wednesday to ask American insurance companies to cover risks involved in launching and durability of a communications satellite.

The group will later visit Britain in a bid to assure Lloyd's, the world's largest insurance undertaker, of Japan's space technology.

Insurance companies in the world incurred a heavy loss from the failure of placing two U.S. and Indonesian communications satellites into orbit in February last year.

The Japanese satellite, Yuri 2-B, is scheduled to be launched in September.

Its predecessor, Yuri 2-A, successfully blasted off in January last year but two of the satellite's three transmitter-amplifiers of radio wave later broke down.

The accident had not been covered by insurance and NHK, the public network, suffered a serious loss.

Japanese agents for American and British insurance companies had asked the space agency and NHK to send a mission of experts for technical explanation of the satellite.

The agency has so far launched 13 satellites for practical use but it has not sent such a mission before to take out insurance for a space device.

The Yuri 2-B satellite itself was produced by General Electric Co., a major U.S. electric appliance manufacturer.

CSO: 5500/4517

JAPAN

NTT TO SEPARATE DATA COMMUNICATIONS SERVICE

OW131213 Tokyo KYODO in English 1141 GMT 13 Mar 85

[Text] Tokyo, 13 Mar (KYODO)--Nippon Telegraph and Telephone Public Corp (NTT) plans to divert itself of its data communications service following its privatization on 1 April, it was learned Wednesday.

Sources said the decision is intended to cope with expected advances into the Japanese data service market by such giant American enterprises as American Telephone and Telegraph and IBM.

The lucrative market will be opened to foreign competition after NTT is privatized 1 April.

The sources said NTT officials are confident its data service business will be competitive after it is separated from the parent corporation.

It chalked up net profit of 38.2 billion yen in fiscal 1983 on sales of 247.4 billion yen.

NTT, meanwhile, announced Wednesday plans for structural reorganization of its enterprise when it starts as a private firm.

The proposed reorganization is designed to compete effectively with newcomers in the market.

The announcement said 31 bureaus and departments at the head office will be reorganized into 18 departments and sections and 6 operational divisions into 2.

The data communications service will be retained as an independent division in the reorganization.

CSO: 5500/4517

JAPAN

BRIEFS

SATELLITE COMMUNICATIONS FIRM--Tokyo, 15 Mar (KYODO)--A group of 11 major Japanese companies and banks will jointly establish a satellite telecommunications firm in April, industry sources said Friday. The new company, to be capitalized at around 550 million yen (\$2.1 million), will be set up by Nippon Steel Corp., Toyota Motor Corp., Nissan Motor Co. and Tokyo Electric Power Co. and seven banks--the Industrial Bank of Japan, Dai-ichi Kangyo, Mitsubishi, Mitsui, Fuji, Sanwa and Sumitomo--the sources said. The company is being formed in response to a proposal on the establishment of a satellite communications enterprise after liberalization of the domestic communications service 1 April, made by the Federation of Economic Organizations (Keidanren). [Text] [Tokyo KYODO in English 0249 GMT 15 Mar 85]

U.S.-MADE SATELLITES--Tokyo, 13 Mar (KYODO--Hisashi Shinto, president of the Nippon Telegraph and Telephone Public Corp., Wednesday expressed himself in favor of importing U.S.-made communications satellites. Speaking at a press conference, Shinto said that the ka band frequencies ranging 20-30 gigahertz (ghz) would make satellite communication services costlier and therefore are not good for commercial purposes. He was referring to the difference of frequencies allocated for satellite communications in Japan and in the United States. The U.S. Government allocates the ku band frequencies ranging 11-14 ghz while only the ka band frequencies are allocated in Japan. A consortium of C. Itoh and Co., Mitsui and Co. and Hughes Aircraft Corp., eager to sell satellites in Japan, has been pressing the Posts and Telecommunications Ministry to allow the use of the ku band frequencies, to which the Hughes-made satellites are geared. [Text] [Tokyo KYODO in English 1143 GMT 13 Mar 85]

CSO: 5500/4517

PEOPLE'S REPUBLIC OF CHINA

BEIJING SETS UP TV REDIFFUSION RELAY STATIONS

OW120959 Beijing XINHUA in English 0814 GMT 12 Mar 85

[Excerpts] Beijing, 12 March (XINHUA) -- Cultural undertakings in Beijing must be greatly expanded to satisfy the growing need of the people's spiritual life, city planning commission chairman Wang Jun said here Monday at the Fourth Session of the Eighth Municipal People's Congress....

Now 100 television rediffusion relay stations, including 60 new ones constructed in 1984, have been set up on Beijing's outskirts, and tv programs reach 98 percent of the city's residents.

8221
CSO: 5500/4195

CHINESE PEOPLE'S REPUBLIC OF THE PEOPLE'S REPUBLIC OF CHINA

23,000 TELEPHONES INSTALLED BY BEIJING MUNICIPAL AUTHORITIES

OW120126 Beijing XINHUA in English 1722 GMT 11 Mar 85

[Excerpts] Beijing, 11 Mar (XINHUA) -- Beijing residents should have more running water, more telephones, better transport and fewer power cuts this year, a city official, Wang Jun, director of the Municipal Planning Committee announced today.

In a report to the Eighth Municipal People's Congress, he said three telephone exchanges would be built capable of serving up to 60,000 more telephones....

The shortage of telephones presents another problem. Among a population of 9,450,000, there are only 340,000 telephones, about one for every 27 residents....

[Last year], city authorities built or enlarged 15 telephone exchanges and installed 23,000 telephones.

8182

CSO: 5500/4195

PEOPLE'S REPUBLIC OF CHINA

GUANGDONG TELEVISION STATION EXPANDING QUICKLY

HK150511 Hong Kong SOUTH CHINA MORNING POST in English 15 Mar 85 p 6

["South China Beat" column by Albert Chan and Ophelia Suen]

[Text] Television is really coming into the picture in Guangdong Province.

Work will start soon on an ambitious RMB 60 million yuan construction project for the country's second largest colour television centre there and already the Guangdong Television Station (GTS) attracts the greatest number of viewers in southern China.

Today there is one television set between five or six viewers in Canton itself. There are about 2.5 million sets for the entire 60 million population of the province, which means an average of one set to nine or 10 people.
[figures as published]

GTS is seen by about 25 million viewers each night--a figure boosted by the fact that neighboring provinces such as Guangxi, Fujian, Jiangxi and Hunan [as published] can also tune in and received its broadcast clearly.

The station's vice-director general, Mr Mai Shizhong, said the new studio project would include a 30-story administration complex, theatres, studios and a dormitory complex.

The new station should be working by November 1987, when the All China Sports Contest is being staged in Canton for the first time.

"It is also hoped more staff will be recruited to make us the second largest TV station in China," said Mr Mai.

GTS has a staff of more than 700 and, in terms of viewers and investment, ranks between the Central Television Station (CTS) in Peking and Shanghai Television Station (STS).

"But our station attracts most of its viewers from southern China," Mr Mai said.

GTS already beats CTS and STS with the most broadcasting time daily. Channel two transmits for five hours and channel 14 for 10 hours every day.

Mr Mai said a recent survey showed that 90 percent of Canton city residents turned to GTS every day.

But because of competition from Hong Kong television, only about 30 percent of viewers in the Pearl River estuary regions were regular watchers, he said.

Mr Mai admitted: "When there is a choice we lose our viewers to Hong Kong."

People living in Zhongshan, Shunde and Panyu can easily tune in to Hong Kong television and radio programmes.

A survey of the 1.2 million readers of the magazine Television Weekly showed that Hong Kong drama series are the main rivals for GTS.

"Target audiences are very important as far as TV viewing is concerned," Mr Mai said. "It is not possible for one single programme to be viewed favourably by everyone.

"But with our geographical superiority, GTS has a higher chance of winning viewers from southern provinces.

"We are also more liberal and Western compared to CTS and STS."

Mr Mai said that there were plans to send three delegations to West Germany for cultural exchange visits and to study how to produce magazine-style programmes.

Currently 40 percent of the local programme content is entertainment and 10 percent is imported dramas.

About 29 to 30 percent is educational programmes and another 10 percent is news coverage. The balance is advertising.

Advertising rates for GTS and about RMB 300 yuan for every 30 seconds during normal broadcasting, and between RMB 500 to 600 yuan for the same period in peak-viewing hours.

The Guangdong Broadcast and Television Bureau is in charge of all finances, Mr Mai said.

CSO: 5500/4199

PEOPLE'S REPUBLIC OF CHINA

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BRIEFS

QINGHAI COUNTY TV STATION--A television relay station has been set up in Madoi Country, Golog Tibetan Autonomous Prefecture, Qinghai Province. The station began transmitting TV programs on 1 February, using prerecorded video tapes. The county town is located 4,200 meters above sea level, and has a population of 1,000. The completion of the television relay station has added color to the life of this small town. Between 7.30 and 10.00 every evening, the towns people would gather in front of their color television sets to watch their favorite programs. The county is now raising money to help tibetan hardsmen in the surrounding area buy wind-driven generators, so that they may also watch television programs in their camp sites. [Summary] [Beijing XINHUA Domestic Service in Chinese 0814 GMT 6 Feb 85 0W] 1617

GUANGDONG POST, TELECOMMUNICATIONS PROJECTS--A series of important post and telecommunications projects in Guangdong Province will be completed and made available to users this year. This will greatly improve the shortage of communications services. These projects include a carrier communications project of a medium-sized 1,800-line coaxial cable from Beijing to Guangzhou via Wuhan, a carrier communications project of a small 300-line coaxial cable from Shamto to Xiamen, the Guangzhou ground satellite station, and two east-to-west digital 1,800-line carrier communications projects from Guangzhou to Shantou and from Guangzhou to Haikou via Zhanjiang that will be completed and made available to users in the second half of this year. With the completion of these projects, direct long distance telephone service can be operated between Guangzhou and medium-sized cities and some counties at the Pearl Delta, except for Meixian County, and between Guangzhou and medium-sized cities outside the province. This year the province will install 100,000 telephones, which will be approximately 100 percent more than the total number of urban telephones before 1984. Rural areas in nearly 30 counties and districts in the province will install telephones, for a total of about 25,000. [Summary] [Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 15 Feb 85]

CSO: 5500/4196

VIETNAM

BRIEFS

SATELLITE INFORMATION STATION--Vietnamese technicians and workers of machine assembly enterprise No 18, Ministry of Building, under Soviet specialists' supervision, are accelerating installation work at the Hoa Sen ground satellite information station No 2 in Ho Chi Minh City. They are striving to complete work at the station before 15 April in order to put the station into operation on 30 April to celebrate the 10th anniversary of the city's liberation.

[Summary] [Hanoi Domestic Service in Vietnamese 2300 GMT 20 Mar 85 BK]

SOVIET-AIDED SATELLITE STATION--Hanoi, VNA, 25 March--Soviet Specialists and Vietnamese technicians and workers at the construction work of the ground-satellite station "Lotus 2" in Ho Chi Minh City have pledged to commission it on 30 April 1985 in anticipation of the city's 10th liberation anniversary. The pledge was taken at a recent ceremony to launch an emulation drive between the Soviet specialists and Vietnamese technicians and workers. Soviet general consul to Ho Chi Minh City O. A. Volkov was present on the occasion. The construction of the "Lotus 2" station started in November 1984, so far, more than 110 tons of machines and equipment have been installed. [Text] [Hanoi VNA in English 1600 GMT 25 Mar 85 OW]

RADIO, TV COMMISSION--On 21 March in Hanoi, the Vietnam Central Radio and Television Commission held a scientific and technical conference to evaluate various scientific research projects and valuable television technical innovations during the 2-year 1983-84 period. Attending the conference were Comrade Tran Lam, member of the party Central Committee and chairman of the Vietnam Central Radio and Television Commission, and Comrade Hoang Dinh Phu, vice chairman of the State Science and Technology Commission. Over the past 2 years, with the co-operation of various scientific research agencies--such as the Military Technical Institute, the Postal Science and Technology Institute, the General Department for Electronics, and several scientific and technical committees of the Institute for Radio and Television Technical Research--the central television station has put into use many valuable research projects. These include the application of microcomputers and [words indistinct] to initially restore picture transmitters for various regional television stations in the southern provinces, as well as to study various television networks and so forth. The conference also discussed the formulation of a scientific and technical research program for the television sector between 1986 and 1990. [Text] [Hanoi Domestic Service in Vietnamese 1430 GMT 22 Mar 85 BK]

CSO: 5500/4320

INTERNATIONAL AFFAIRS

DATA PROVIDED ON CEMA SATELLITE TV SYSTEM

East Berlin DIE DEUTSCHE POST in German No 1, Jan 85 pp 7-8

[Article by Wolf Kahle, department head in the Ministry for Post and Telecommunications: "International Experimental Complex 'Dubna'--An Important Contribution of the Participating Countries in the Program 'Interkosmos' for the Peaceful Use of Space"]

[Text] The scientific and technical progress of radio engineering is closely bound up with the opening up of new frequencies for steadily expanding services. This is confirmed by even a short look at the most familiar radio service, the wireless. In addition to use of the traditional long-wave, medium-wave and short-wave bands for audio wireless, developments took place into the ultrashort-wave range and upon the introduction of television the VHF and UHF bands became part of a familiar vocabulary. With the opening up of decimeter and centimeter wavelengths there arose those microwave links which transmit stereophonic wireless signals and television programs from broadcasting stations or television studios to their transmitters. In addition, it then became possible to put into operation wireless telephone and teletype links via microwave. Other radio systems receiving much attention employ communications satellites. The satellite systems currently in operation for point-to-point transmission of television signals or for other communications services are for the most part carried out in the 6/4-GHz frequency range. This means that the 6-GHz range is used for the earth-satellite link while satellite-earth transmission takes place in the 4-GHz range.

Since this frequency range is practically fully occupied by those communications satellites which are at the present time either in operation or have internationally made application for assignment, in recent years much attention has been given worldwide to the opening up of new frequency ranges above 10 GHz--in particular the ranges 14/11 GHz and 30/20 GHz. Frequency bands are available here in which, under the same conditions as in the 6/4-GHz range, it is possible to increase the number of satellite systems roughly fivefold.

A further advantage of these extremely short wavelengths is the possibility of employing on-board antennas having smaller diameters. This is advantageous in terms of satellite weight and yields sharper lobes in the radiation pattern. Nevertheless, there is the disadvantage that in passing to higher

frequencies the radio waves suffer attenuation as a result of the effect of atmospheric factors--especially from water vapor and rain. This leads to a deterioration in the energy budget. Therefore it is very important to have a precise knowledge of the propagation conditions and to take into account possible external influences when planning developing and operating satellite systems. At the same time such research constitutes a very complicated problem. This is because in order to investigate radio wave propagation one must first create the total required radio-engineering equipment such as transmitters and antennas and one must also produce extensive measurement apparatus. It is also necessary to develop new structural components for these frequencies. In order to be able to solve this important problem in joint efforts on the part of those countries of the socialist community who are participating in the "Interkosmos" Program, these countries have developed a project for an international communications satellite experimentation system. During the period 1979 to 1981 most of the work was completed for creating the complex of technical equipment. Parallel to this, in 1980 the national coordinating organizations of the "Interkosmos" Program in consultation decided to create an international experimentation complex (Figure 1) [Figure not reproduced] employing the combined forces of the participating countries in the region of the Soviet city of Dubna. This would have the aim of carrying out here scientific-engineering and experimental investigations for the purpose of opening up new frequency bands. To this end, in 1981 there was signed in Cracow an agreement respecting this international experimentation complex, its function and its structure and also with respect to the legal aspects of its activity.

In accordance with the task assignments which had been agreed upon, the USSR has created (Figure 2) [Figure not reproduced] the "Loutsch" space station and an earth-based radio station of Class 1 having an antenna diameter of 12 meters. The CSSR developed an earth-based station of Class 2 having a 3-meter antenna diameter and radiometers in the ranges 11 and 20 GHz. The People's Republic of Bulgaria took over the development of the transmission-receiving complex of terrestrial test routes in the ranges 20 and 30 GHz. From the Hungarian People's Republic and the People's Republic of Poland there came devices for measuring precipitation intensity. It was the task of the GDR to create both a computer-supported measurement evaluation complex (Figures 3 and 4) [Figures not reproduced] and narrow-band receivers for measuring the radio wave attenuation over the satellite transmission paths. The GDR also had the responsibility of creating equipment for the transmission of data from the individual observation points to the computer. In addition, the GDR has been assigned a coordinating function for the entire operation; responsibility for this is being assumed by the wireless and television engineering central office of the German postal system.

In March 1982 the "Loutsch" space station was launched and placed in a geo-stationary orbit at 53° east longitude. The international experimentation complex was placed in operation in September 1982.

The international experimentation complex consists of three observation sites, two of which are 1 km apart from one another while the third is at a distance of about 12 km from the first observation site. The "Dubna" experimentation

complex as well as the national observation complexes of the participating countries are located in climatic zone II which is characterized by moderate precipitation intensity. Since the precipitation statistics and the associated statistics for radio wave attenuation depend essentially upon the geographic location of the receiving points practical interest attaches to the recording of signals at locations in various climatic zones. In order to acquire experimental data for regions of high precipitation intensity it was agreed to set up within the framework of the international experimentation complex a fourth observation site in the climatic zone V on the shore of the Black Sea. The data measured at this observation site are to be transmitted via the "Loutsch" satellite to the observation site 1 in the direction of Dubna and there automatically fed into the computer complex for processing. In order to guarantee the highest reliability for the computer complex there exists between the terrestrial "Intersputnik" radio stations in Dubna and the GDR (the latter including the national test complex of the German postal system, employing the same computer type) a link via the "Stationar 4" satellite and over this link there is a continuous exchange of data.

The program for experimental studies at the international experimentation complex contains nine experiments for the period 1982 to 1985 which encompass the main features needed to fulfill the assigned task. The scientific managers of the experiments are proven specialists from the participating countries in corresponding scientific areas. One of them has been assigned from the wireless and television engineering central office of the German postal system.

8008
CSO: 5500/3015

INTER-AMERICAN AFFAIRS

BRIEFS

TELECOMMUNICATIONS MEETING OPENS--(DYN)--The second meeting of the permanent technical commission on radio communications of the Inter-American Telecommunications Conference (CITEL) will meet here between tomorrow and Friday in an effort to coordinate interests towards adopting joint positions on the use of geostationary satellite orbits and planning the use of space services. Geostationary satellites are those whose orbits coincide with the earth's rotation, remaining constantly perpendicular to a given point on the surface of the planet. Representatives from 14 countries throughout the hemisphere and observers from several continental and international organizations will take part in the five-day talks aimed at determining common denominators for CITEL to present at the World Conference on Radio Communications Administration (CAMR-85) next August. [Text] [Buenos Aires BUENOS AIRES HERALD in English 24 Mar 85 p 13 PY]

CSO: 5500/2052

BRAZIL

GOVERNMENT GRANTS TV, RADIO LICENSES

PY160200 Rio de Janeiro O GLOBO in Portuguese 14 Mar 85 p 5

[Excerpts] Brasilia -- With 3 days to go before the end of his term in office President Joao Figueiredo has granted TV concessions to Senator Benefito Ferreira (PDS-GO [Social Democratic Party -- Goiania], Governor Julio de Campos (PDS-MT) [Social Democratic Party -- Mato Grosso] and to TV Bandeirantes which has received the last available channel in the Federal Capital. The decrees granting these concessions were published yesterday in the OFFICIAL GAZETTE.

Senator Benedito Ferreira has been granted a concession for a TV station in the capital of Goiania, and the Governor of Mato Grosso for a TV station in the rural town of Rondonopolis. The new concessionaries have 60 days to sign the contracts with the federal government. [passage omitted]

The OFFICIAL GAZETTE also published yesterday several decrees granting concession for three radio stations: a medium wave concession in Xique-Xique, in Bahia, which will be used by Radio Tribuna do Vale do San Francisco; another concession to Radio Universal in Teodoro Sampaio, rural Sao Paulo State; and the last one to Radio Rural de Guarabira in Guarabira, Paraiba State.

2600
CSO: 5500/2053

JAMAICA

NATIONAL COMPUTER CENTER EARNINGS, SERVICES INCREASING

Kingston THE DAILY GLEANER in English 9 Feb 85 p 22

[Text]

The National Computer Centre of the Public Service Ministry expects to earn about \$1.1 million by the end of the 1984/85 financial year, an increase of some 25% over the 1983/84 earnings.

According to a release from the Ministry of the Public Service, more than 50% of all Government Ministries and Departments use the Centre and a number of these expanded their use of the Centre during last year. Also, private sector patronage grew significantly last year, and this trend is continuing. This sector accounts for about five percent of total revenue.

Director of the Computer Centre, Mr. Winston Oliver, said on Monday that projected revenue could be increased if more Ministries were to utilise the facilities. At present, he said, there were two shifts instead of the desired three. He said that al-

though less than the full complement of 55 data processors were on the job, he felt that the Centre could cope with a 10:30 p.m. to 6:30 a.m. shift which would increase revenue intake by at least \$500,000.

Mr. Olivet said he expected the Centre to earn at least \$1.25 million during '85/86 on the present two-shift operation.

The type of work being done at the Centre includes statistic type reporting, accounting reporting, payroll, inventory controls for the Department of Supply and the Island Medical Stores and economic model packages.

One problem being faced by the Centre is the rapid turnover of staff who after receiving training at the Centre and gaining at least three years experience, leave for more lucrative jobs in the private sector, the release said.

CSO: 5540/025

BANGLADESH

BRIEFS

NEW MICROWAVE LINK PLANNED--A new microwave link is being set up between Dhaka and Chittagong to improve the communication system, including the transmission of television programs. It will replace the old one and is expected to be completed by August this year. It will have three microwave links with each of 1,800 channels. Television will be given a separate radio link after the new microwave system is set up. At present, a 960-channel system microwave is working between Dhaka and Chittagong with an alternative system of another preventive [as heard] microwave of 960 channels. [Excerpt] [Dhaka Domestic Service in English 0110 GMT 20 Mar 85 BK]

CSO: 5500/4722

INDIA

BRIEFS

ROHINI SERIES SATELLITE PLANNED--India's first indigenous 150 kg satellite will be launched and placed in orbit later this year. This was indicated by the Department of Space in its demands for grants for 1985-86. The satellite will be launched under the Rohini satellite series. [Text] [Delhi Domestic Service in English 0240 GMT 18 Mar 85 BK]

CSO: 5500/4721

INTER-AFRICAN AFFAIRS

PANA COUNCIL TO CONSIDER ADMISSION OF SDAR

MB240900 Luanda Domestic Service in Portuguese 1200 GMT 23 Mar 85

[Text] Lucio Lara, member of the Political Bureau of the MPLA-Labor Party and chairman of the Intergovernmental Council of PANA, has been in Addis Ababa, capital of Ethiopia, since yesterday to chair another session of the Council to be held on 26 March. Shortly before departure from Luanda for the Ethiopian capital, Lucio Lara told ANGOP that the meeting will basically analyze the situation created by the SDAR's request to be admitted to the organization. Other problems relating to the functioning of the agency will be discussed.

The People's Republic of Angola will be represented at the meeting by a high-ranking party delegation led by Comrade Roberto de Almeida, secretary for the ideological work of the MPLA-Labor Party's Central Committee. Robert de Almeida was previously in Maputo, where he attended a ministerial information conference of the Portuguese-speaking African countries, which was organized to find common views among the five to be submitted to the Addis Ababa meeting.

CSO: 5500/117

INTER-AFRICAN AFFAIRS

LUSOPHONE NATIONS APPROVE NEWS EXCHANGE PROGRAM

AB251015 Dakar PANA in English 1155 GMT 24 Mar 85

[Text] Maputo, 24 March (AIM/PANA) — The five Portuguese speaking countries in Africa, Angola, Cape Verde, Guinea Bissau, Mozambique and Sao Tome and Principe, have approved a broad programme of action aimed at increasing the circulation of news among them. The programme was approved in Maputo today at the end of a three-day meeting of information ministers of the countries, the first such meeting to be held.

The programme includes regular exchanges between the press, broadcasting institutions, news agencies and mass media in the rural areas, and in the fields of photography, records, graphic arts and professional training. As well as increasing the amount of news sent between the five countries, the press and radio in each of the five will create special sections for this news. Each country will also send correspondents to the other four.

For the news agencies, a study is to be made on the possibility of direct telecommunications links between the five, which may then be presented for financing to UNESCO as a joint project. It was also agreed to make maximum use of local capacity for professional training, as well as jointly using training facilities outside the group, such as the Yugoslav Institute of Journalism.

On the question of culture, the meeting passed a recommendation to the sub-commission of the five countries on training, research and culture to step up efforts to recover from Portugal, the former colonial power, items of their historical heritage. The information ministers agreed to meet annually to coordinate cooperation.

A final communique from the meeting, read out today by Mozambican information minister, Mr Jose Luis Cabaco, noted

that cooperation in information "is a fundamental element in strengthening mutual knowledge of our peoples, so that each one reinforces awareness that they are not fighting a lone battle". The document said that the peoples of the five countries "have the right to defend the truth of our reality and see it presented against a just historical-cultural background."

The meeting considered the PAN-AFRICAN NEWS AGENCY (PANA) as important in achieving a new information order, as was the pool of news agencies of the non-aligned countries. The five countries expressed full confidence in UNESCO and in its orientation "at a time in which the major news monopolies are carrying out a violent campaign against UNESCO".

The meeting also passed a motion of support for the peoples of southern Africa and of East Timor. The motion, read out by the secretary of state for information of Cape Verde, Mr Corsino Fortes, said the five "reaffirm solidarity with the peoples of South Africa, Namibia and East Timor, led by their vanguards -- the ANC, SWAPO and Fretilin [Revolutionary Front for East Timor Independence] respectively "against apartheid, South African colonisation and occupation of East Timor by the Indonesian Army".

The meeting in Maputo was also attended by the MPLA party's secretary for ideology, Mr Roberto de Almedida, Guinea Bissau's information secretary, Mr Agnello Regalla, Mr Joao Barbosa Neto, director of broadcasting in Sao Tome.

The next information meeting of the five will be held next year in the Angolan capital.

CSO: 5500/118

INTER-AFRICAN AFFAIRS

BRIEFS

LUSOPHONE-SPEAKING NATIONS ON MEDIA--Experts from the five Portuguese-speaking African countries began a meeting in Maputo this morning to assess the existing cooperation and study means of expanding it. After the opening session, the experts were divided into study groups to discuss a number of issues related to information, namely news agencies, press, radio, and films. Minister of Information Jose Luis Cabaco presided over the opening session. The meeting is designed to prepare the first meeting of ministers of the five Portuguese-speaking countries scheduled for Tuesday. [Text] [Maputo Domestic Service in Portuguese 1030 GMT 19 Mar 85]

CSO: 5500/112

BURKINA

FRENCH AID GRANT FOR OUAGADOUGOU CRTO

AB201800 Ouagadougou Domestic Service in French 1300 GMT 20 Mar 85

[Text] A FAC [Aid and Cooperation Fund] financing agreement between the Government of the French Republic and the Ouagadougou Regional Remote Sensing Center [Centre Regional de Teledetection] [CRT0] was signed today, Wednesday, by Leon Okio, managing director of the center, and Francois (Milmeche), chief of the French cooperation mission. This agreement, totalling 2 million French francs or 100 million CFA francs, constitutes the third installment of the assistance given by France for the training of and aid to the users of the Ouagadougou CRTO.

The French Ministry of Cooperation and Development had already financed the center with a first installment of 2.3 million francs or 115 million CFA francs in 1981, a second installment of 2.5 million francs or 125 million CFA francs, and a third installment of 2.7 million francs or 135 million CFA francs. The activities envisaged for this new agreement financed by the FAC of the French Republic concern the training of cadres from African countries to enable them to efficiently exploit the data provided by the [words indistinct] aerospace remote sensing system. This training will be submitted to a new computer educational orientation for the preparation and numeric treatment of data transmitted by the satellite.

The aid program for the users consists of a double action: The sensitization of organizations which are potentially interested and aid for the users within the framework of specific projects.

The head of the French cooperation mission, Francois (Milmeche), was accompanied by Jean-Paul (Turez), an adviser at the cooperation mission, while the director general of the CRTO, Leon Okio, was assisted by his principal collaborators.

CSO: 5500/112

BURKINA

BRIEFS

FRANCE DONATES TV EQUIPMENT--French-Burkinabe cooperation was strengthened this morning with the handing over of equipment to our television network. The equipment include an editing unit, two video reporting units and their accessories and a Peugeot 504 station wagon. The handing-over ceremony took place at the premises of the Radio Broadcasting House in the presence of the secretary general of the Ministry of Information and Culture, Comrade Yaya Nguittien, and officials of the Ministry of Information. On the French side, Jean-Pierre (Fiorez), adviser at the French cooperation mission, represented the head of the mission. Handing over the equipment to the Burkinabe authorities, Mr (Fiorez) expressed the hope that the equipment would improve the quality of the television programs. [Excerpt] [Ouagadougou Domestic Service in French 1300 GMT 28 Mar 85 AB]

CSO: 5500/121

CONGO

BRTEFS

HOTLINE WITH ZAIRIAN PRESIDENT--Brazzaville, 19 Mar (ACT/PANA)--The presidential residences of Congo and Zaire will soon be linked by a red telephone. This project, the feasibility of which was confirmed by telecommunications experts from the two countries meeting in Kinshasa, is still subject to Zairian and Congolese Government agreement. [Excerpt] [EA200834 Dakar PANA in English 1351 GMT 19 Mar 85]

CSO: 5500/113

MALI

BRIEFS

FRENCH TELEVISION EQUIPMENT--The Malian Radio and Television Service (RTM) received a truck fitted with television equipment for live coverage of national events from France this morning. The handing over ceremony took place right here at 1300 GMT this afternoon at the RTM in the presence of Mrs Gakou Fatou Niang, minister of information, and the French ambassador to Mali, His Excellency Gerard Pavret de la Rochedordiere. The truck is valued at 250 million CFA francs. [Excerpt] [Bamako Domestic Service in French 1500 GMT 12 Mar 85 AB]

CSO: 5500/111

MAURITANIA

BRIEFS

FRENCH LOAN FOR TELECOMMUNICATIONS--France will give Mauritania a 55,118,119 ouguiya [Fr 1 equals 10 ouguiya] grant to be used for the extension and modernization of the country's telecommunications facilities. It is the third installment of funds earmarked by the French Central Fund for Economic Cooperation for the establishment of a satellite communications earth station and an international transit center in Nouakchott. [Summary] [Nouakchott Domestic Service in French 0700 GMT 6 Mar 85 AB]

CSO: 5500/4604

SENEGAL

PANA TECHNICAL COMMITTEE MEETING BEGINS 12 MAR

AB131351 Dakar PANA in French 1021 GMT 13 Mar 85

[Text] Dakar, 13 March (PANA)--The third session of the PAN-AFRICAN NEWS AGENCY (PANA), which began in Dakar yesterday, will scrutinize its communication network and make recommendations for its improvement.

Opening the session Cheick Ousmane Diallo, PANA's director general, stated that the major preoccupation of the agency was to ensure the complete coverage of the continent in which each member country will participate as a full-fledged member by next year.

Mr Diallo also spoke of PANA's project to computerize its editing services because of the increasing flow of information received and sent out by the headquarters of the agency in Dakar since it went into operation in May 1983. He added that to speed up the dissemination of information, PANA plans to use a satellite communication system. The committee will draft a document on this project.

Meanwhile, the committee will examine possible relations in the field of international communication with the view to determining from what world capitals PANA will possibly operate in the years ahead.

The 4-day meeting will also make concrete proposals on the reduction in telecommunications fares which have been taking up a sizeable amount of the agency's budget. The previous meetings of the International Council had adopted resolutions calling African governments for a 50-percent reduction in fares for the agency's special lines and for preferential fares for news agencies.

The committee, which held its last meeting in December 1983, comprises representatives from Sudan, Nigeria, Zambia, Libya, Zaire, and Senegal. The international organizations represented in the committee include UNESCO and the International Telecommunications Union (UIT).

CSO: 5500/111

SOUTH AFRICA

TV 4 TO BEGIN 30 MARCH, NEW TRANSMITTERS PLANNED

MB201608 Johannesburg Domestic Service in English 1115 GMT 20 Mar 85

[Text] The deputy director general of the South African Broadcasting Corporation, [SABC], in control of TV 4, Mr Teuns Van Heerden, says everything is ready for the start of the new service. He told the Johannesburg Junion Afrikaanse Sakekamer [Chamber of Commerce] that TV 4 would begin transmissions at 2130 on Saturday night, 30 March and that a special program was planned for that night. He said that the new television channel was a bonus for South African viewers, and that no additional monies were payable as existing television licenses covered all SABC transmissions. Van Heerden emphasized that TV 4 had nothing to do with the planned subscription television service. A monthly fee would be levied for the latter service which had nothing to do with the SABC.

He also announced that the SABC was involved in a program to extend the number of transmitters in which 16 booster and 13 main transmitters would be erected. Two booster transmitters which would be completed before October would be erected in Johannesburg. Others would be in Pretoria, Durban, Port Elizabeth, Simonstown, Houtbay, Welgemoed, Paarl, Stellenbosch, Fram-schhoek, Kroonstad, Newcastle, Ladysmith, Heidelberg, Nylstroom, and on the South Rand. New main transmitters would be erected at Potgietersrus, Rustenburg, Grahamstown, Port Shepstone, Donny Brook, Christiana, Eshowe, Queenstown, Schweitzer-Reneiker, Zeerust, Bethlehem, Kuruman, and Nelspruit. The first of these transmitters would be completed by October.

CSO: 5500/121

ZAIRE

BRIEFS

COMMUNICATIONS SYMPOSIUM--The state commissioner for Postal, Telegraph and Telephone Services, citizen Mukuku W'Etonda, during a work session on Tuesday with the central and regional administrators of ONPTZ /Zairian National Posts and Telecommunications Office/ announced plans for the organization in Kinshasa on 27 to 30 March of the first symposium on telecommunications in Zaire, the theme of which would be "What telecommunications will Zaire have in the year 2000?" These meetings will bear mainly on critical analysis and the options of the development plan for telecommunications in Zaire worked out by the ITU /International Union of Telecommunications) at the request of the executive council, given the priority accorded the telecommunications sector by the founding president of the party in his program speech on last 5 December. Citizen Mukuku, who appointed during this work session the planning committee of this symposium, expressly asked the regional directors to imagine the possibilities for extension, given the present realities of the regional networks. Several international organizations and subregional organizations (ITU, UNPD, UPAT /Pan-African Telecommunications Union/, ADB /African Development Bank/, CAPTAC /expansion unknown/, CEPGL /Economic Community of the Countries of the Great Lakes/) as well as the major national users of telecommunications (CMZ /Zairian Shipping Company/, GCM /expansion unknown/, SNCZ /Zairian National Railroad Company/) air transport companies, ONATRA /National Transportation Office/ and sellers of telecommunications equipment (Bell, Thomson, Siemens) will take part in the meetings. The Congo, Zambia and the partners of Zaire within the CEPGL will also be invited. /Text/ /Kinshasa ELIMA in French 10 Jan 85 pp 1,7/ 8956

CSO: 5500/82

ZIMBABWE

ZBC TO BEAM ACROSS BORDERS

Harare THE HERALD in English 4 Mar 85 p 1

[Text] The Gweru transmitters of the ZBC might be used for external broadcasting services if Government plans come to fruition, the Zanu (PF) secretary for publicity and information, Cde Nathan Shamuyarira, said yesterday in Kadoma.

He told this to newsmen following a three-day seminar for the ruling party's secretaries of publicity and information of all Zanu (PF) organs around the country.

The external broadcasts would have the effect of countering subversive South African broadcasts, some of which were being beamed to Zimbabwe.

The Politburo member, who is the Minister of Information, Posts and Telecommunications, said Venda programmes from South Africa were being beamed to Venda-speaking Zimbabweans in Beitbridge and Mwenezi, and Sindebele programmes were being beamed to areas in Matabeleland.

In order to counteract that, Venda programmes would be introduced on the radio and Sindebele programmes would be increased.

But external service transmission, the minister said, "requires heavy commitment in terms of finance and equipment."

Cde Shamuyarira said the seminar had discussed at length how best the party's image could be built up in the election campaign and how the party's progressive policies could be publicised.

There are long-term plans for the party organ, Zimbabwe News, to be turned into a weekly. "When that pattern has been established we envisage the possibility of turning it into a daily or having another daily paper, allowing the magazine to continue as a weekly."

Participants have also urged the Government to speed up the establishment of communications centres throughout the country.

The Ministry of Information, Posts and Telecommunications plans to equip the centres with solar-power television sets and video recorders.

The seminar was also attended by heads of the mass media in the country.

USSR

FUTURE TELEPHONE NETWORK PLANS OUTLINED

LD172310 Moscow Domestic Service in Russian 1100 GMT 17 Mar 85

[*"Talk" by Aleksandr Alekseyevich Aleshin, head of the USSR Communications Ministry Main Administration of Urban and Rural Communications*]

[Summary] The national telephone network is a large and sophisticated complex of technical facilities and means that includes exchanges and many thousands of kilometers of cable. It involves teams with many thousands of workers throughout our country, a fleet of specialized and transport vehicles that service the telephone networks, and extensive reserves of equipment.

Today our country's telephone network connects about 30 million telephones. In the 11th Five-Year Plan workers in telephone communications have been tasked to increase the number of telephones 1.3 times and the number of telephones installed in residences 1.4 times. The communications workers are successfully coping with this task. Over a 4-year period in rural and urban areas 5.2 million telephones have been installed, over 75 percent of them in residences.

We try to arrange our work in such a way that the distribution of telephones meets existing requirements completely. Since the beginning of the 11th Five-Year Plan, more than 850,000 apartments of disabled persons and veterans of the Great Patriotic War have been connected. Still, according to letters received, the population's demand for the telephones is not being met fully. It is worth mentioning that at present 23 percent of families living in urban areas and 7 percent of families living in rural areas possess telephones, but this is only an average. In some cities and towns the telephone communications are better developed, in others they are less developed. The same applies to the rural areas. In total, we have 10 million requests for the installation of telephones, these are 10 million potential customers. At present there are 260,000 coin-operated telephones throughout the country. We install about 10,000 coin-operated telephones annually. In our opinion, even with the growth of capacity in residence connections the demand for pay telephones will increase. This is one of the principal types of connections.

A recent decision by the CPSU Central Committee and the USSR Council of Ministers, dealing with improving the telephone services for the population, obliges us to practically triple the number of telephones in our country by the year 2000. Also, we are going to continue installing the majority of

telephones, at least 75 percent of them, in residences. The rates of developing telephone communications are to increase drastically in the 12th Five-Year Plan. We will connect 12.2 million telephone numbers in both urban and rural areas. Rates of growth in the 12th Five-Year Plan are to increase 1.7 times. The decision envisages significant measures to develop telephone communications in our country, quotas for production of cable and communications equipment have been set for the industry, and tasks of constructing buildings for automatic telephone exchanges have been set for the republican councils of ministers and the city executive committees.

We often reject personal requests to install telephones for the reason that a telephone exchange has not yet been built in the area. Now construction of these buildings is being carried out on an increasingly systematic basis, and we hope that close cooperation with the town executive committees will allow us to significantly accelerate the construction of the buildings where telephone exchange equipment is to be installed. Quite naturally, such a steep rise will be accompanied by improvements both in servicing the population and in the national economy.

Along with development of the rural and urban telephone communications, significant development is planned for the interurban telephone communications. Here the main trend is automation of the interurban telephone exchanges. First of all, the number of coin-operated interurban telephones for public use will increase, and priority will be given to the resort towns; they should be installed in places of around-the-clock public access. Even now, some 60 percent of connections are put through automatically. In major towns and the capitals of the union republics this percentage is somewhat higher. In the 12th Five-Year Plan the level of automation of interurban telephone exchanges is to exceed 85 percent. To achieve this end, it is envisaged to significantly increase the scale of constructing the automatic interurban telephone exchanges.

The length of interurban telephone lines is also to be extended. Over 85 percent of rayon centers, and there are 3,600 of them in our country, are to be equipped with automatic interurban telephone exchanges to connect them with their respective oblast, republic and kray centers. In connection with the implementation of the Food Program, development of telephone communications in rural areas will allow us to complete the provision of telephones for all kolkhozes, sovkhozes, and other agricultural enterprises by the year 1990. We set the task of supplying telephones to all the sections and stages of the agricultural production, medical and prophylactic establishments, rural medical and obstetric centers, rural schools, stores and cultural and public services centers. In accordance with our planning, 34 percent of families will have telephones in the period of the 12th Five-Year Plan; in the 13th Five-Year Plan about 50 percent of families, and by the year 2000 about 80 percent of families will have telephones in their apartments. Priority will be given to satisfying the demand for telephones of war-disabled persons, participants in the Great Patriotic War, and of families with many children. The demand of Category 1, War and Labor Invalids, will be met by 1988, and the demand of war veterans and families with many children will be met by 1990.

The decision envisages a maximum 1-year term from the moment a request has been listed to the moment a telephone is actually installed. I would like to emphasize that a great amount of work has to be done to fulfill this task. Development of telephone communications provides a necessary basis for improving medical, public and cultural services for the population. It will allow us to increase the number of existing services, as well as to introduce some new ones. There are some services now that everybody knows about: booking of train and air tickets, different types of information and inquiry services such as the arrival of trains, availability of goods in the stores and medicines in the pharmacies, calls by doctors, ambulances, weather forecasts, and others. Development of the urban, rural and interurban telephone communications will enable us to make these services equally accessible for inhabitants of both rural and urban areas.

The introduction of new technology will take place in two main areas. First, completely new types of switching equipment will be used at automatic telephone exchanges, so-called quasi-electronic and electronic exchanges. As early as in the 12th Five-Year Plan, several million numbers will be introduced at such exchanges. In addition to improving audibility, reducing noise and making connections more reliable, these exchanges will make a number of additional services available, such as informing the user of an incoming call, calls among several subscribers at the same time, the transfer of calls to another number, abbreviated codes for frequently used numbers, and so on. Optical cables will start being used in the 12th Five-Year Plan period.

CSO: 5500/1016

EUROPEAN AFFAIRS

INSTITUTE SCHOLAR OPTIMISTIC ABOUT NORDIC TELE-X PROJECT

Oslo AFTENPOSTEN in Norwegian 16 Mar 85 p 2

[Article by Professor Gunnar Stette, Institute of Telecommunications Engineering, NTH [The Technical University of Norway]: "Tele-X and Nordic TV"]

[Text] The Tele-X project, in which Finland, Norway and Sweden participate, has for a long time lived an anonymous existence, even though the activity within the program has been going full speed the entire time. Discussions about Nordic cooperation have, however, drawn attention to Tele-X again, but from reports in the press and broadcast media it seems that there is both insufficient and incorrect information about the project.

The newspapers are discussing "whether the Tele-X project will become a reality." The Tele-X project was approved a long time ago and is underway. It began with industrial interest and it has a wider purpose than merely to give the Nordic countries TV coverage via a broadcasting satellite. It also has a data transmission portion which is intended for small inexpensive earth stations out on farms, and which will be especially suitable for large amounts of data. It can for example be appropriate in connection with graphic information and the new systems for computer-assisted construction and production. It will also give Norwegian industry a reason to develop in the area of space technology and satellite communications. Norwegian industry has an especially good point of departure when it comes to earth stations, and it exports half of this part.

The Tele-X project as it is described in Storting Proposition 98 (1982-83) has been approved and is going according to plan. I will especially mention the following:

- The cost for the satellite and the earth stations is within the cost frame and all contracts are on a fixed-price basis.
- Development of the satellite is going according to the time plan, with the delivery of the satellite, ready to launch, coming before the end of 1986.

Carrying out such a large project is never without problems. One area of uncertainty has been the development of high-capacity conduits for the TV transponders. We know from this and other programs that the suppliers of such conduits have had problems, but after large investments it now appears that the causes of the failures have been localized and the problems can be solved. Another point of uncertainty is the forward thrust of the corresponding French and German TV satellites, TDF-1 and TV SAT. Tele-X is based on the same platform, "spaceship," and it is safest to remain behind a comfortable distance so that eventual problems with the German and French satellites can be solved before Tele-X is sent up.

- The performance of the satellite is also in accordance with the plan. Three TV transponders (two operating and one reserve) can illuminate Scandinavia with a signal strength that permits direct reception by the individual viewer. In this connection it is important to understand the difference in use between TV satellites for direct broadcasting, such as Tele-X, and communications satellites of the ECS type. Tele-X will cover 97 percent of the population of the country. The ECS is only intended for reception for common antenna and cable installations, and it is expected that not more than 40 percent of the population will be tied to such installations within 5-7 years. If the politicians choose not to invest in satellites for direct broadcasting they must be clear about the consequences for covering the population of the country.

- As for the earth stations, the development program is also on schedule, both as to cost, time plan and technical performance. Elektrisk Bureau [EB], which is the Norwegian participant in this part of the project, has 50 percent of the earth station development. EB's share is a contract for 77 million kroner (January 82 prices), and that includes a control station which also will be the nucleus of similar systems which can be delivered to countries where there is a need to expand telecommunications rapidly.

This is the factual information about the development of the Tele-X project so far. The satellite with its associated earth stations is therefore underway. With costs, delivery times and production all in accordance with the plans, it must be difficult to criticize carrying out of the project so far.

The next question relates to how the system will be used. It can be useful to look at how this was planned when the project was formed. The Tele-X project was from the beginning dependent on the NORDSAT project. The Nordic Council of Ministers decision of 27 March 1982 to begin a study phase as a link in the development of a radio, TV and telecommunications cooperation based on transmission via a satellite system is only mentioned in the introduction to the Tele-X agreement between the governments.

In accordance with the agreement between Norway and Sweden about cooperation in the telecommunications satellite area (Attachment 1 to Storting Proposition 98 (1982-83)) the cooperation will be conducted within the framework of a consortium. For execution, the consortium formed two stock companies.

The purchasing company, with 85/15 percent Swedish-Norwegian participation, is responsible for the purchase of the satellite and the associated earth stations. The operating company, NOTELSAT, which is owned by the two countries' Telecommunications Administrations on a 50/50 basis, is responsible for the forming and carrying out of the telecommunications experiments. NOTELSAT has established working groups with participation from the two Telecommunications Administrations who are working on that.

What Will It Cost?

What has caused an uproar around the project is a discussion of the costs for the use of the TV part of the satellite. The government agreement states that the satellite, after the expiration of the test period, will be assigned from the purchasing company to the operating company. In the ordinance for the Nordic Telecommunications Satellite Consortium, drawn up 11 April 1982 and signed by the two countries' ministers of industry, §86 says among other things:

"...If after the experimental phase the Tele-X goes over into preoperative or operative use, the purchasing company, after negotiating terms with the operating company, will assign the Tele-X satellite and associated earth equipment to the operating company for appropriate market value, calculated by their traffic value to the operating company."

Not Discussed

Individual figures for annual rent have been rumored in the press, but the costs have not been discussed by the directors or the general assembly of the purchasing company, which will have ownership rights to the satellite. Neither have they been discussed by the directors of the consortium. I believe it is important to make that clear. The ones who according to the project plan will rent out the Tele-X satellite "on commercial terms" to users, both for TV and data transmission, are the operating company NOTELSAT and the Telecommunications Administrations.

9287
CSO: 5500/2615

EUROPEAN AFFAIRS

ESA APPROVES TESTING PHASE FOR PROSAT PROJECT

Bern TECHNISCHE RUNDSCHAU in German 6 Nov 84 p 71

[Article: "Green Light for Second Phase of Prosat Program"]

[Text] Six members of the European Space Agency (ESA) have decided to begin the second phase of the Prosat program. This project aims to design future generations of mobile satellite systems and in particular to create for European industry a favorable position from which to prepare for the new types of satellites to be developed at the beginning of the next decade.

One of the aims of Prosat is the development of smaller maritime user stations in order to make satellite communications available to the whole maritime industry; even low tonnage units. In addition, new services in conjunction with the Inmarsat system will be introduced for use in space flight as well as in ground communications. In the case of the latter, considerations include installation of a network covering all of Europe so that truckers, for example, could maintain constant contact with their home base.

The first phase of the program involved a number of technical experiments on establishing the system base, primarily involving the problems of signal transmission. The second phase builds on this preliminary work and this framework includes further development of the systems and the creation of a sufficient number of demonstration units for installation as on-board mobile equipment.

Then a series of tests will be made to check for unit suitability and to introduce their performance potential to possible users. This work will make it possible to assess the requirements of third-generation mobile systems and thus to prepare the necessary spacecraft technology.

With a total budget of somewhat over 10 million European currency units (1 ecu = \$0.89 at the 1984 exchange rate) the second phase of the Prosat program which is now scheduled to begin should be completed by the end of 1987.

12552
CSO: 5500/2596

FEDERAL REPUBLIC OF GERMANY

EUROPEAN FIRMS CLOSE RANKS AGAINST U.S., JAPANESE THREAT

Duesseldorf WIRTSCHAFTSWOCHE in German 8 Feb 85 pp 82-91

[Text] In a critically embattled market, industry increasingly is relying on cooperation. European manufacturers, too, have recently reached agreement to meet the challenge of U.S. competition.

The prognoses are turning somersaults: In 1984, the telecommunications business totaled DM480 billion worldwide. "In the 1990s," predicted Tom Sommerlatte, manager of the Wiesbaden market research organization Arthur D. Little International, "the telecommunications industry will be among the three largest industrial sectors of an economy." With average growth rates of 10 percent a year, Sommerlatte says, a market will have developed by 1988, in which DM700 billion will be spent annually. This amount is going to double by the mid-1990s.

With such predictions as a backdrop, it is not surprising that traditional telecommunications manufacturers and computer producers are busy preparing for a gigantic race, which, to top it all off, is government-supported. In scrounging around for market shares, the chances for German suppliers--after lean years in the computer field--are not bad.

With a 9 percent share of the world market, only Siemens is in the group of top communications equipment manufacturers, ranking third after AT&T and ITT, but other communications manufacturers such as Telefonbau and Normalzeit [Telephone Construction and Standard Time] in Frankfurt, and Standard Elektrik Lorenz AG (SEL), a subsidiary of ITT, have a foot in the door, and computer designers, such as the Nixdorf Computer AG in Paderborn, are switching into telecommunications.

Competing with the United States, in particular, has not been easy for the European communications industry. Until now, growing research and development expenditures, small domestic markets with limited sales opportunities, and inadequate systems standardization have set narrow limits. That should change in the future. The trend toward cooperation has reached Europe as well.

In late January, the four largest European manufacturers of communications systems reached an agreement on the future joint development of public

digital switching exchanges. A primary advantage for the participating companies--Siemens AG, Itatel (Italy), CIT-Alcatel (France) and Plessey (UK)--will be that unnecessary duplication of investments during the development phase will be avoided. In addition, the cooperating partners expect that joint standards are going to improve their competitiveness in international markets. In the long run, the four partners are considering the establishment of a joint development center.

The Siemens electrical company of Munich has accomplished a technical coup with the development of its Hicom communications system, which the Bavarians want to use to put their international competitors in their place. Hicom is a digital private branch exchange permitting, for the first time, the simultaneous transmission of voice, pictures, text and data over conventional telephone lines.

With their system, which cost DM500 million to develop, the Munich company is banking heavily on the FRG Postal Service's ambitious project to modernize the entire telephone network and, in the process, to open up new opportunities for private terminal manufacturers. Under the logo ISDN--in the jargon of the specialists: Integrated Services Digital Network or service-integrated digital network,--the government agency is preparing for gradual entry into a new era of telecommunications.

However, experts continue to have serious doubts that the ambitious goals of the Federal Postal Service can be accomplished within the projected time period. Telecommunications consultant Dieter Steuer from Hannover, for instance, believes that, from today's perspective, users will be able to live with the existing services and networks for another 10 years.

Nevertheless, the consultant has to deal almost daily with the investment fears of the users who, for years, have been made to believe that they will find themselves in a new flourishing world of telecommunications as early as tomorrow. Analyst Steuer comments, "In the next few years, the Postal Service and a few manufacturers will be able to implement only a few applications with which to show off, but on a broad basis, the companies must undergo a rethinking process." Most users are still wedded to conventional technologies and it will be difficult to pull them away from the massive ADP investments of the past years, he believes.

Still, the telecommunications agency has high hopes to be on the right track internationally with their efforts to integrate networks and services. With the help of the most modern telecommunications net in the world, the Postal Service primarily wants to set up a phenomenal infrastructure on a national basis as a showpiece of the future of telecommunications and, by doing so, provide a sample of its international competitiveness for the billion dollar business.

The Japanese and American competitors are by no means taking these ambitions lightly. Protected by their governments, such U.S. companies as AT&T, IBM, or ITT, Japan's communications giant Nippon Telegraph and Telephone (NTT) and computer maker Fujitsu as well as Canada's Northern Telecom, Sweden's

L. M. Ericsson, and France's Thomson are making strong efforts to secure the largest piece of the telecommunications pie for themselves. Since most of these manufacturers are highly experienced in either telecommunications or conventional data processing, and since the inevitable merger of these two disciplines requires knowhow in both fields, these companies are currently focusing their operations on lively cooperation.

Recently, AT&T announced a joint venture with Electronic Data Systems (EDS), a wholly-owned subsidiary of General Motors. EDS works in the data processing area. In the early 1980s, IBM associated itself with Mitel, the Canadian communications specialist. After squabbling with the Canadians, Big Blue switched with flying colors over to Rolm, the California manufacturer of private exchanges, which, world-wide, ranks seventh in that sector. When arch-rival AT&T launched its first joint-venture counterattack on European soil by buying into Italy's Olivetti and the Netherlands' Philips in 1983, IBM took the counteroffensive: In 1984, the computer champion associated itself with the Italian state-owned company Stet. However, IBM was turned down by the Thatcher government in its planned deal with British Telecom, the telecommunications concern. Among the European telecommunications companies, only L. M. Ericsson has entered into a joint venture, which is of any consequence, with the U.S. computer manufacturer Honeywell.

There apparently has been no need for the Japanese manufacturers to undertake such efforts. The Nippon companies are now preparing to conquer the world's telecommunications market in their own typical fashion through a domestic effort. They seem to follow the same route as the German Federal Postal Service, i.e., to turn the domestic market into a small technological model state first and, in the process, stimulate its international business.

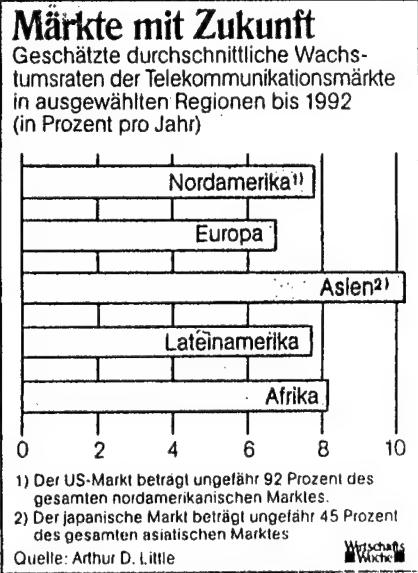
The tempo the Japanese are exhibiting is remarkable. In 1984, NTT began to install a 3,000 km optical fiber cable for DM 2 billion that is designed to link Sapporo and Fukuoka in the near future. The Japanese planners expect to link all 48 provincial capitals by cable by 1987, and to link the entire Japanese archipelago by cable by the turn of this century.

Such an undertaking has given a jolt to the busy telephone giant AT&T: A 21,000-mile optical fiber network is to cover not only the major regions of the United States, but also the Atlantic and Pacific.

This telecommunications heavy artillery, called out by both the Japanese and the Americans, are causing increasing doubts in the minds of German politicians.

There is intense discussion of what role the government should assume in guiding the efforts of the German manufacturers. Franz Arnold, communications expert in the main office of SCS Scientific Control Systems, the Hamburg management consulting firm, and a former high-ranking official in the FRG Postal Ministry has a clear answer: "We no longer can afford the illusion of grandeur of believing that a free-market economy alone is enough to make us competitive in international markets."

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Key:

(1) Markets with a future
(2) Estimated average growth rates in telecommunications markets in selected regions to 1992 (in percent per year)
(3) North America (see footnote 8 below)
(4) Europe
(5) Asia (see footnote 2 below)
(6) Latin America
(7) Africa
(8) The U.S. market constitutes about 92 percent of the entire North American market.
(9) The Japanese market constitutes about 45 percent of the entire Asian market.
(10) Source: Arthur D. Little

7821

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FEDERAL REPUBLIC OF GERMANY

TELECOMMUNICATIONS SERVICES CHARACTERIZED

Duesseldorf WIRTSCHAFTSWOCHE in German 8 Feb 85 pp 74-75

[Text] Until the office clutter can be replaced by multifunctional terminals and until several connections can be made to one connection box, language, text and data continue to go their separate ways. The German Federal Post and Telecommunications Administration offers a number of services via the telephone network and the integrated telex and data network (IDN).

Telex Service: Telex, right after the telephone, has probably become the most important vehicle for business transactions. However, with its 50-bits-per-second speed, telex service is probably also one of the telecommunications authority's slowest services. Nevertheless, some 1.5 million subscribers worldwide can get in touch with one another around the clock. Since the service started 51 years ago between Berlin and Hamburg with exactly 19 subscribers, the number of connections has now grown to 158,000.

Teletext: The much more efficient office teleprinter permits the exchange of typed texts between memory typewriters or word processors at a transmission rate of 2,400 bits per second, which means that a DIN-A-4 page can be transmitted in less than 10 seconds. The still-novel electronic transmission of texts was introduced in June 1982 when, after lengthy international negotiations, agreement was reached on a joint, globally accepted standard. At present, some 9,000 subscribers in the Federal Republic are using this service which enables them to reach telex subscribers all over the world by automatic dialling.

Telefax: The facsimile transmission service permits the transmission of documents with graphics and pictures over the telephone. Although worldwide communication is basically possible because the telephone network is standardized, this is usually only the case if the participants in the electronic conversation use the same type of equipment. Even so, with a total of about 18,000 facsimile transmission units, the Germans have not yet discovered their love for this service, which started in 1979. The reason for that may be the transmission speed which continues to strain budgets in the medium equipment class 2. This equipment group transmits a standard 1,400-keystroke letter, on which the manufacturers usually base their time estimates, in three minutes; the less complex class 1 needs even four to six minutes to

reach the recipient. With only 15 seconds to transmit the sample letter, group 3 is very fast. But not only is it faster, but it still is also significantly cheaper to send such a document from Duesseldorf to Munich over the telephone instead of through the conventional mail.

Interactive Videotext: The most recent development among the various tele-communication services began in September 1983. Although initially considered a mass communication medium--because of its ideal combination of television and telephone--, the euphoria, at this time, is restrained. Adequate technical components for the terminals are still missing. And the people in the FRG are still lacking in their enthusiasm to shop electronically or to do their banking from their living room. Spectacular reports about the lack of data security are not helping any. There were only about 2,000 subscribers by year-end 1984. As an important addition to a simple information request from the Btx information system, it is now possible for the first time to communicate by television or, e.g., also by microcomputers with large data processing centers that are built by a number of manufacturers.

Datel Service. Rapid data exchange among computers is possible through different kinds of services and speed classes. The approximately 20,000 subscribers to the line-switched services (Datex-L) and the packet-switched services (Datex-P) can also communicate across national borders. Of the two, the Datex-P service, which permits FRG users in 35 countries and 53 networks and services to communicate with one another, has proven to be more accessible worldwide than its line-switched counterpart.

Main Connection for Direct Calling (HfD): More than 100,000 subscribers are using these permanently wired transmission paths.

Although computers communicate in their own typical language, namely, in zeroes and ones, modems can edit their signals for the analog telephone net. However, unlike IDN, which permits speeds up to 48,000 bits per second, the telephone network is only suitable for data transmission rates of up to 4,800 bits.

Temex. With this planned new postal service, which is still in its experimental stage, it will be possible to do long-distance regulating, metering and controlling. For example, public utilities can read electricity, gas or water meters over the telephone. If we include security systems, and heating and lighting installations, which could be operated by remote control, their use appears to be only limited by our imagination. This is what the data protectors have come to realize as well. They have registered their concerns. They are demanding that, to begin with, clear legal principles be established to protect the citizens from unauthorized surveillance of their private affairs.

Telebox. Electronic competition with letter carriers has recently started. Telebox is able to transmit text and to store it in a central Post Administration computer, which keeps the information in its electronic mailbox until the recipient retrieves it. Paper is replaced by an appropriately prepared microcomputer with a special communications control program and

an acoustic coupler that prepares the computer signals for the telephone circuit. Just as with Btx and Temex, the data protectors have already made their concerns known about this post-office service. Because, whatever makes the networks and services, which are accessible to everybody, so open, also makes it easier for unauthorized persons to gain access and to abuse them.

7821

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16 April 1985

FEDERAL REPUBLIC OF GERMANY

DGB SPOKESMAN ASSERTS POSTAL SERVICE IGNORES SOCIAL ISSUES

Duesseldorf WIRTSCHAFTSWOCHE in German 8 Feb 85 pp 78-82

[Interview with Siegfried Bleicher, member of executive board, German Confederation of Labor (DGB) by WIRTSCHAFTSWOCHE editors Armin Mahler and Gunhild Luetge, date and place not specified: "Not Without Allies"]

[Text] On the topic of information and telecommunications technology, the government parties do not share the views of forward-looking managers, notes Siegfried Bleicher, member of the executive board of the German Confederation of Labor (DGB).

[Question] Last November, the OeTV [Public Service, Transportation and Communications Union] spoke out against converting the telephone network into the ISDN [Integrated Services Digital Network]. Is this the first labor union blockade on the way to the information society?

[Answer] The unions have never blocked technological progress. However, a critical discussion has now started on cable technology. We are concerned about the final outcome of this development. Are they going to look, as is necessary, at the social consequences and the technological structure? The resolution of the OeTV is a contribution to the discussion to develop a unified DGB position. It is a first attempt to formulate conditions under which new technologies can be introduced.

[Question] When we modernize the telecommunications infrastructure, we do so primarily in order to stay competitive. Where, then, do you see any problems?

[Answer] Information and communications technology is certainly of importance to modern industrial society. Therefore, one can't oppose it completely. Labor unions have never been against cable technology if it was a matter of business communication in industry. But we are extremely critical of mixing cable technology with political goals involving the media. At the moment, they are appealing to the freedom of information of mature citizens in attempts to force the installation of copper distribution nets and to shake up both the media-political landscape and the journalistic division of power. We are against private radio companies and for preserving the present system under public law. In this area, the manipulations by the Postal Service look irresponsible to us.

[Question] Still, the OeTV resolution doesn't only cover the cable installation for radio distribution, but also the expansion of the telephone network.

[Answer] In the resolution, it isn't a matter of blocking developments in the information and telecommunications technology area. The resolution opposes primarily the plans of the Postal Service and demands the socially acceptable regulation of their effects on society before they go ahead and put the cables in. On this point, there is agreement within the DGB. Our proposals for the social regulation of technological changes are proof of this. OeTV opposition to the digital universal network cannot be interpreted as blocking the technology because the resolution also offers a technological alternative. Internationally, the DGB has not gone that far in its positions. However, if it turns out that the problems of the digital Autobahns--to use a Postal Service term--cannot be overcome on a socially or sociologically acceptable basis, the DGB clearly will also have to think about technological alternatives.

[Question] Well, the speed of development is probably dictated by international competition. How much longer do you need to think about it?

[Answer] If I understand it correctly, the FRG is by no means lagging behind in the optical fiber area. The question is whether we are not losing our advantage because of the current investment plans of the Postal Service. We are spending DM1 billion a year on outdated technologies. Also, the impact of that investment on employment is relatively small. While it isn't any higher for optical fibers, it could at least make up for the export losses in conventional transmission technologies.

[Question] Hence, matters with regard to optical fibers aren't going fast enough for you?

[Answer] First of all, I think we are going overboard when we tie up our funds in coaxial cables as the Postal Service minister does today. On this point, we agree with some industries that are also critical of coaxial cabling. There are also some people in the telecommunications industry who believe that the money is being invested in a technology that no longer is considered innovative in world markets.

[Question] Japan and the United States are pushing the installation of optical fiber cables much more forcefully today.

[Answer] That's correct. Still, the development is not yet entirely completed. It's not merely a matter of optical fiber technology, a number of components also play a part in it. Furthermore, one shouldn't make the mistake of comparing countries of different sizes.

[Question] So you believe that enough time is left for discussion?

[Answer] At any rate, we are waiting for an evaluation of the employment effects. For us, a very important issue is that, to contribute to the solution of the unemployment problem, productivity gains must be used to finance further cuts in working time. In addition, there are questions of consumer,

environmental and data protection. That, of course, takes time. Also, we have to know what impact this will have on working conditions. It is entirely possible that we are going to develop a position on the telework issue that will be far more critical than what is currently in our resolutions.

[Question] You might be even more critical? Even today, some sections of the labor movement want a ban.

[Answer] Yes, that's true. But perhaps a way could be found in the future after all, provided certain conditions are accepted. The creation of sub-employers on the basis of plant contracts, which mean nothing else but that the employees are without social protection, is unacceptable to us.

[Question] Why then do you refuse to join the telework model experiment in Baden-Wuerttemberg if you want to participate in working out employment conditions?

[Answer] The DGB is one of many who contribute to the model experiments. That has nothing to do with codetermination. Moreover, not only the unions, but our citizens in general as well, have had bad experiences with pilot projects. As a rule, promises that the projects could be cancelled were never kept. We don't say "no" from the start. IG Metall [Metall Workers Union] has already listed several conditions which we would like to see met. But we are not getting involved in projects for which we have to accept the responsibility without an opportunity to participate in their formulation.

[Question] Now, the DGB codetermination initiative hasn't been going anywhere for quite some time...

[Answer] These are your words.

[Question] ...At the moment, you are finding little interest in Bonn for your concerns?

[Answer] Technology problems are primarily matters covered by the Employees' Representation Act. Employee representatives are becoming increasingly engaged. They want codetermination even at the planning stage when new systems are being introduced. And this we have taken as our position even now in anticipation of the law being amended. At this point, the FDP is primarily interested in winning a constituency by way of representation committees for management personnel. That's an additional challenge to our organization. However, the federal minister of labor also recognizes the problem of codetermination in technological matters. I don't think we will be without allies. In this matter, we also have the support of the CDU social committees. Even the firms themselves seem to be well aware of the fact that an expansion of codetermination is in store for them.

[Question] So you are hoping that the responsible people in Bonn will be flexible?

[Answer] We can't very well close our eyes to the fact that our so-called technical progress is about to lose its social legitimacy. If politics

prevent a social arrangement on technology in which the affected people can participate, then social conflicts cannot be avoided. That is not only a question of specific union interests. Most politicians are straddling the fence for the time being. They can't satisfy the interests of industry either. Forward-looking managers who believe in making effective use of new systems, are no longer as negative about more codetermination in company matters as the government parties continues to be. They realize that, in the long run, business cannot do without involving those who are affected. We insist, however, that such participation must not be up to the manager but that it must be institutionalized and that there will be more representation of worker interests in company affairs. Under no circumstance will we tolerate that human beings be continued to be considered as nothing else but biological terminals. We do no longer live in the tradition of the past century, when technical progress and social progress were synonymous. We are prepared to cooperate constructively, but they have to accommodate us as well.

[Question] And if that doens't happen?

[Answer] Even those who continue to believe today that they will be able to push development through against our will, will have to realize that this won't work in the long run without social consensus. Unfortunately, thinking only in black and white is still very widespread. But if they want to accomplish something, they need the unions to maintain social stability.

7821
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16 April 1985

FEDERAL REPUBLIC OF GERMANY

EXPANDED ROLE FOR POSTAL SERVICE INFRASTRUCTURE

Duesseldorf WIRTSCHAFTSWOCHE in German 8 Feb 85 pp 68-78

[Text] The planned expansion and the modernization of the telecommunications network will offer as yet unimaginable opportunities for telecommunications.

It is a pure coincidence: In the much-cited and, above all, much-maligned Orwell year 1984, the first section of a FRG-wide optical fiber network project was put into operation between Hamburg and Hannover. For the first time, last November, FRG Postal Service Minister Christian Schwarz-Schilling and the second mayor of the Hansa city, Alfons Pawelcyk, talked with each other by way of light signals over the 160 kilometer distance.

However, modern telecommunications technology is by no means limited to long-distance communication through light-beams, it also translates into voice, texts, pictures or figures light impulses that are invisible to the eye. The individual fiber is thinner than a hair and so efficient that one kilogram of optical fiber can take the place of 11 tons of conventional copper cable.

We are beginning to realize today that our entire communications system is going to reach new dimensions. The telecommunications structure of the future has prospects "whose consequences we can merely imagine with our current understanding of information and communication," noted Schwarz-Schilling who, as head of the FRG Postal Service and of the top telecommunications authority, is at present in charge of setting the course for the future.

In fact, we are slowly beginning to get an idea today of what multifunctional terminals as successor of the simple telephone are going to look like or what kinds of new services will be available to private households and business:

--The videophone will permit face-to-face communication;

--Simultaneous text and picture transmission during the conversation will make time-consuming explanations redundant;

--Video conferences can benefit business travel budgets;

--One DIN-A4 page of text will reach the recipient in less than a second;

--Telefax, a new service combining existing teletex and telefax services, permits combined text and facsimile transmission;

--Btx, the videotext system which is already in existence will be significantly faster and, therefore, more convenient, just like data communication in general;

--In addition, store-and-forward services for voice, texts and data with mailbox functions are planned which will compete with the mail carrier.

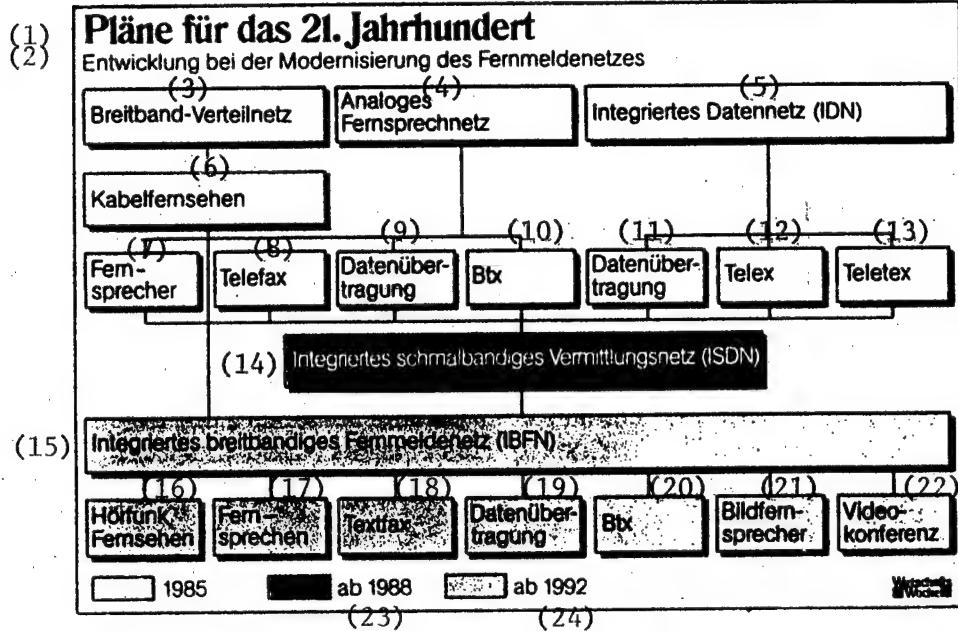
However, the time when everybody can freely and easily communicate in different ways with everybody else throughout the country at the speed of light via optical fibers will not come until the next millenium. Our first priority is to convert the conventional telephone network that was built over the past 100 years. After that of the United States and Japan, it is the third-largest and--generally acknowledged--most efficient system of the world. More than 100 million kilometers of copper cables wind their way through the soil of the FRG. Together with technical exchange and transmission equipment, the value of the telephone net is now about DM100 billion. Thus, the telecommunications infrastructure now exceeds the value of the entire Autobahn [super-highway] network.

Thanks to early worldwide standardization, approximately 25 million telephone subscribers in the FRG are enjoying the convenience of being able to reach at any time almost any place in the world by automatic dialling. Another 300,000 are using the integrated telex and data network IDN which does not only transmit data, but also does telexing and teletexting. The third FRG telecommunications network is the wideband net that is currently being enlarged--not without some controversy--for radio and television program distribution. Here, the Postal Service is using the conventional coaxial copper cable whose capacity, unlike that of the simple telephone cable, lends itself to the transmission of moving images. Yet, conceived as a special-purpose net, it runs counter to the general trend toward complete net and service integration for the benefit of subscribers.

The Postal Service's painful experience has shown that, as a network is getting more specialized, the number of potential customers shrinks. Extensive special-purpose networks for a limited number of subscribers are bad business for the carrier and, therefore, expensive for the customers. Also, the Postal Service's 1979 decision to digitize the present analog long-distance net for technical reasons has provided the basis for the integration of individual networks and services.

While the conventional analog type of transmission converts voice signals, i.e., sounds, into uniform electrical voltage signals, digital systems work with binary-code information, so-called bit sequences. The coded information cannot not only be transmitted, but it can also be stored, edited and processed.

The mere conversion of the technology from analog to digital makes it possible to double the capacity of existing telephone cables in the subscriber area.



Key:

1. Plans for the Twenty-First Century
2. Scenario for the development of the telecommunications network
3. Wideband distribution network
4. Analog telephone network
5. Integrated telex and data network (IDN)
6. Cable television
7. Telephone
8. Telefax
9. Data transmission
10. Videotex (Btx)
11. Data transmission
12. Telex
13. Teletex
14. Integrated services digital network (ISDN)
15. Integrated wideband telecommunications network (IBFN)
16. Radio, television
17. Telephone
18. Textfax
19. Data transmission
20. Videotex (Btx)
21. Video telephone
22. Video conference
23. Beginning in 1988
24. Beginning in 1992

Breaking down voice, texts, pictures and data into zeroes and ones for transmission is not only more economical, but also improves the quality of the transmission and ensures less noise interference.

Since, for quite a long time, only digital transmission systems have been purchased, it is now a matter of digitizing the telephone net's 7,000 exchanges. Some 100 of them will have been converted by 1990. It will take another 30 years to completely replace the analog transmission technology by new systems. The digitized telephone net will then develop into the ISDN, the universal integrated services digital network. A single subscriber connection will be enough to transmit and receive voice, text, data and pictures. Up to eight terminals can be reached by a common telephone number. If, eventually, everything will come from one connector, a recommendation will have been put into effect that was made by the Commission for the Expansion of the Technical Communications System (KtK) back in 1976.

To ensure the quality of the net in the future as well, despite the diverse and very active transmitting operations, the Postal Service has reserved the right to examine all terminals to see whether they meet recently adopted international standards. But this, too, does not mean that all units are able to communicate with one another. That will require another push for further standardization which will primarily involve the equipment manufacturers.

What future role the Postal Service itself is going to play as a supplier of terminals, is not entirely clear at this point as the recent discussion of the cordless telephone has illustrated. However, the authority leaves no doubt about how it views its future role as a modern service organization. It does not want to limit itself to the supply of only data transmission equipment. It plans to offer, in addition, largely standardized telecommunications services.

Meanwhile, the expansion of the infrastructure is going ahead. The about 100 exchanges to be digitized by 1990 will make it possible to supply most potential ISDN subscribers. And only five years later--the Postal Service estimates--the extensive ISDN coverage may have been accomplished. By the end of this decade, optical fibers and optical systems will also have come into their own because hopefully they will have become sufficiently profitable by that time and gradually augment and eventually replace copper cables completely.

Apart from the Hamburg-Hannover long-distance cable (Bigfern), the Postal Service has installed the optical-fiber experimental network, or Bigfon, in seven German cities. For these subscribers, the future has already begun.

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FEDERAL REPUBLIC OF GERMANY

POSTAL SERVICE FISCAL ROLE IN GENERATING INNOVATION

Duesseldorf WIRTSCHAFTSWOCHE in German 8 Feb 85 pp 64-68

[Text] Through targeted allocation of billions of marks, the FRG Postal Service is a powerful co-determinant of German industrial competitiveness in international markets. There is no lack of plans, but there is a lack of programs for funding them.

Federal Postal Service Minister Christian Schwarz-Schilling left no doubt at the end of last year, "Just as we have, for years, used our role as the largest investor to the advantage of the entire economy, we are going to take care of our innovations, which, by the way, have already been planned in detail." And by publishing a colorful brochure, "ISDN--the German Federal Postal Service's Answer to the Requirements of Tomorrow's Telecommunications," he reinforced his serious intention to make a name for himself not only as somebody who loves the media, but who also pushes for the modernization of the telecommunications network that holds so much promise for the future.

As head of the Post and Telecommunications Ministry, he is not only responsible for the welfare of its 540,000 employees, but also for an annual budget of about DM70 billion. His investment decisions--approximately DM16 billion worth of orders are awarded each year--support umpteen thousands of jobs and, last but not least, affect the competitiveness of the telecommunications industry. The role of the yellow giant in stimulating innovation has already been demonstrated by Schwarz-Schilling's predecessor, Kurt F. Gescheidle, who did not hesitate in 1979 to halt the further development of the outdated analog switching technologies of the FRG telephone system. At the same time, he gave the go-ahead in 1979 for a program that is to last for generations: to modernize the analog telephone network, set up over the past 100 years, with digital technology up to the ISDN (Integrated Services Digital Network). The goal he was aiming for: larger capacity and better performance of the existing extensive copper cables.

Since then, everything happened in quick succession: one year later, Volker Hauff, minister for research at the time, stated that the telecommunications network of the future was going to be made of optic

fibers. To him, it was completely out of the question to install, for several billion marks, an additional separate wideband copper-coaxial cable network exclusively for radio and television distribution. Hauff gave priority to individual business communications, which he believed would also provide the technical prerequisites for the mass media cable TV.

Again one year later, the cabinet approved the Postal Service plan to cover the entire Republic with optical-fiber cables. Those in responsible positions believed at the time that, apart from the modern infrastructure for commercial information transmission, the population of the FRG could then make selections from an unlimited number of programs. A long-term investment and financing plan for this mammoth program was announced.

Christian Schwarz-Schilling, the new head of the ministry, did not want to pursue all of these decisions. Although he had promised the cable industry after assuming office in the fall of 1982, that he would buy one million optical-fiber kilometers by 1995, he increased in the same breath investments in coaxial cabling, previously considered superfluous, from DM450 million to DM1 billion per year for the sole purpose of expanding the program. Since then, the experts have been wondering whether the German telecommunications industry will soon be looking at competitive TV via coaxial wideband cables.

According to latest Federal Postal Service information, some 250,000-300,000 optical-fiber kilometers will be laid in parallel by 1989. Compared to Japan and the United States, Schwarz-Schilling is keeping a tight rein on the technology of the future: Japan's annual production of the hair-thin fiber is already 150,000 kilometers; the annual program of the Americans is set at 200,000 kilometers. However, achieving the FRG's projected goal by 1995, will mean the cabling speed must be accelerated to above average during the next decade.

The size of orders placed by the federal telecommunications authority is usually not considered big enough to break into a technology to which--it is generally agreed--the future belongs. Franz Arnold, who at one time was in charge of this area in the federal administration and who today is much in demand as an expert of the renowned SCS Scientific Control Systems Corporation, is one of the most fierce critics of the state's investment policy, "An average of 100,000 optical-fiber kilometers a year is a negligible volume." While the government managers support an expansion in response to consumer demand, Arnold believes that speedy optical fiber cabling is necessary to stimulate the terminal and components industry. "No private company is going to do research and development on devices or necessary components as long as the cable hasn't even been put underground." As with the telephone in the past, the cables must be put in without installing the connections at the same time, he noted.

In his view, the Postal Service's undefined role as supplier of terminals is causing a similar delay. That is why the former head of the Postal Service is asking the authorities in his new study* to provide, as soon as possible, concrete and reliable information in order to alleviate private supplier uncertainty. The most recent dispute between the Postal Service and the Ministry of Economics concerning the cordless telephone has shown how urgent it is to settle this issue. The liberal economics minister, just like the EEC Commission, were unable to see any reason why the device should come under the jurisdiction of the telecommunications monopoly. For private industry, Arnold says, the development risks would be incalculable unless the future supply of terminals is regulated as well. Although the commission Schwarz-Schilling established for that particular purpose has not even held a single meeting, Arnold is now submitting a long-term program.

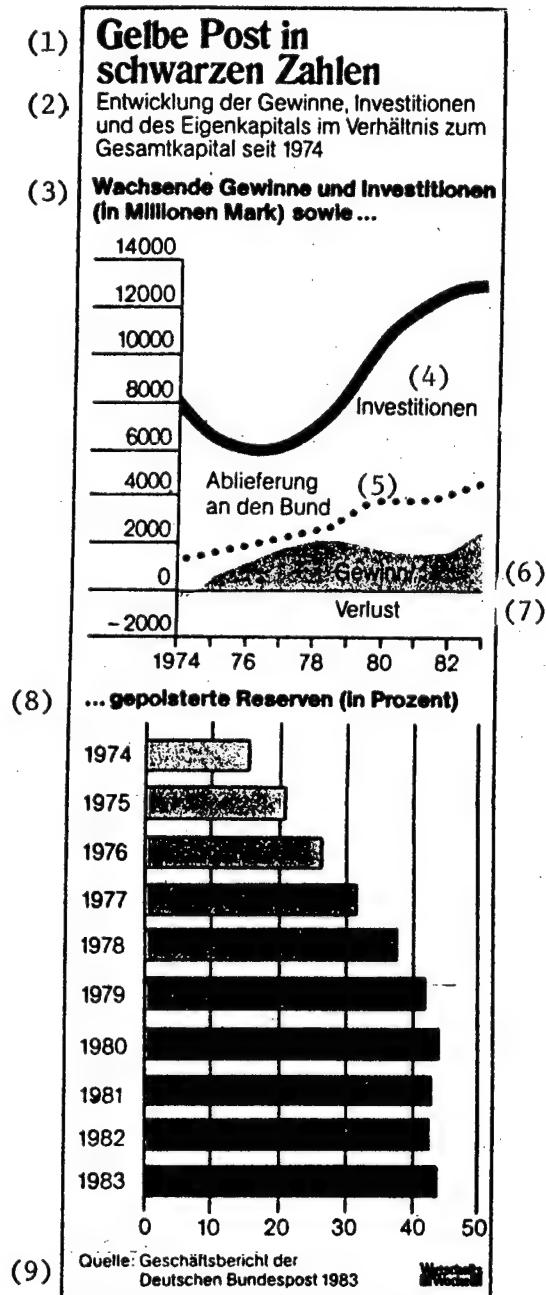
While well-established Postal Service suppliers, such as Siemens and SEL, prefer to stay away from these intra-governmental squabbles, Peter Vischer, head of W.C. Heraeus GmbH, supported Arnold last summer in his previously lonely battle concerning optical fibers. As market leader for quartz tubes for the manufacture of light-conducting fibers, the company ships 90 percent of its output to customers in Japan and the United States. This, he states, clearly demonstrates the technological gap, which--by the way--has also been acknowledged by the federal government, e.g., in its information technology report to the Bundestag of April 1984.

It is true, the FRG telecommunications industry has been able to catch up on digital switching technologies, he said. However, a new gap is going to develop with regard to optical fibers unless the expectations of the domestic market can be improved.

Arnold estimates that an additional DM2 billion will have to be spent on optical fibers. And that is not enough. Modernization of the conventional telephone network with digital technology as a precondition for integrating into a future universal optical-fiber net the Postal Service networks and services, which are still separate today, has its price. To revamp the approximately 7,000 exchanges, another DM2 billion per year must be invested, in addition to the DM1.5 billion already budgeted for, Arnold estimates.

That is what he had suggested at a Bundestag hearing in the middle of last year. He recommended that a suitable investment package be worked out.

* Dr. Franz Arnold, SCS Scientific Control Systems Control GmbH, VORSCHLAEGE ZUR LIBERALISIERUNG DER ORDNUNGSPOLITISCHEN REGELUNGEN FUR FERNMELDE-ENDGERAETE [Proposals for Liberalizing the Regulatory System of Telecommunications Terminals]. This second part of an examination of telecommunications-related issues is available at Datakontextverlag, Postfach 40 05 53, (5000) Koeln 40. Price DM1700 plus value-added tax.



Key:

1. Yellow Postal Service in black figures
2. Profit, investments and equity capital trends compared with total capital since 1974
3. Profits and investments growth (in million DM); as well as ...
4. Investments
5. Deliveries to the government
6. Profits
7. Losses
8. Increase in reserves (in percent)
9. Source: GESCHÄFTSBERICHT DER DEUTSCHEN BUNDESPOST [Annual Postal Service Report], 1983

This, he believes, could include about DM2 billion a year from equity capital, so well endowed in recent years. This should not present a problem in view of the handsome 43.3 percent equity capital rate. Liquidation of reserves could contribute another DM1.2 billion a year.

And finally, if Finance Minister Gerhard Stoltenberg only got the 6.66 percent revenue that was customary before 1981, instead of the current 10 percent, an additional DM1.8 billion a year would be available for the technologies of the future--provided, of course, the yellow Postal Service would not slip into the red meanwhile.

How much money will eventually have to be available for installing the optical-fiber universal network is a matter of approximated estimates. For instance, Ronald Dingeldey, president of the central telecommunications office in Darmstadt, expects that it will require investments of about DM 500 billion by the year 2020.

In distant Japan, these things are seen in a much more realistic light. Over the next 15 years, Japan plans to invest DM230 billion in its telecommunications infrastructure.

However, what appears to be also advisable for our economy, would only be feasible under certain circumstances, the Postal Service believes. To provide solid funding for current investments would require annual net revenues totaling billions of marks in future years as well, according to the 1983 annual report. And, if the skeptics are proven right, these may not materialize. It is also questionable whether the Postal Service will continue to have the billions of marks Schwarz-Schilling is presently putting underground in the form of coaxial cables, after the Federal Accounting Office has completed its evaluation.

Considering these risks, it is not surprising that financial action is necessary despite colorful brochures with promising plans for the telecommunications network. Unlike industry, which usually plans its investments for a 10-year period, its civil-service guiding light and director had, in early 1985, not yet submitted detailed information on how he intends to fund his big project through the end of this century.

7821
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16 April 1985

FEDERAL REPUBLIC OF GERMANY

DATA BANK DEVELOPMENT, USE STILL LAGS IN FRG

Duesseldorf WIRTSCHAFTSWOCHE in German 8 Feb 85 pp 102-106

[Text] The ignorance of German managers and scientists in the use of international data banks, which everybody deplores, has its reasons: You have to know how to work with these electronic department stores.

Experts in this field never tire of explaining to the Germans the treasures that remain hidden to them: at the present time, more than 2,000 data banks have their data on the market. The basic criticism is that the wheel is being reinvented over and over again because the citizens of the FRG simply are not willing to take advantage of the electronic department stores and their large selection.

Juergen Schulte-Hillen, who has made a name for himself in the FRG as technology advisor and information broker, has counted only 500 data bank users. Is it perhaps because the Germans think that they know everything, that they treat the information sector with such ignorance? An estimated 90 percent of all German scientists have never before in their life done any research with the help of an international data bank. And yet, a telephone, a terminal and a communications adapter are sufficient, and all the knowledge of the world is right on their desk at home--that, at least, is what the marketing staff of this still-young branch claims.

But it is not quite that simple. Apart from having the technical equipment, the potential researcher must, first of all, be trained to learn the basics of the so-called retrieval or query languages. That is because computers don't understand just any language, and even data banks set up for public access have their very own addressing procedure which again varies from data bank to data bank. Thus, the more sources the user wants to use, the more query languages--there are about six or seven--he must first learn. Appropriate courses are offered by the individual hosts, i.e., the companies who, in most instances, also market a whole selection of data banks in the most diverse subject areas through their own large computer centers. Basically, there are two types:

--Bibliographical data banks essentially specialize in short summaries--so-called abstracts--that refer to relevant material elsewhere. Almost all data banks fall into this category.

--Fact data banks provide much more specific information. The researcher gets the information in the form of numbers and tables. Sometimes the systems prepare edited graphics in a particularly user-friendly way. However, projecting them on the screen requires very special knowhow. It is sometimes a good idea to know third-semester economic statistics.

Furthermore, since in every data bank the collected data have been stored according to the creator's very own logic, the beginner must familiarize himself with the structure of the various data banks to find out as quickly as possible what he is really looking for.

The disappointment when, after time-consuming and costly research, the worldwide retrieved information turns out to be largely identical, does not encourage data bank acceptance. And when the finder then goes from the electronic department store to the traditional bookstore, and when getting the literature takes a multiple of the time needed for the electronic request, the much-praised time advantage has in most instances evaporated. But in the meantime, many hosts have recognized the problem and are now providing the opportunity to order the necessary literature through the terminal.

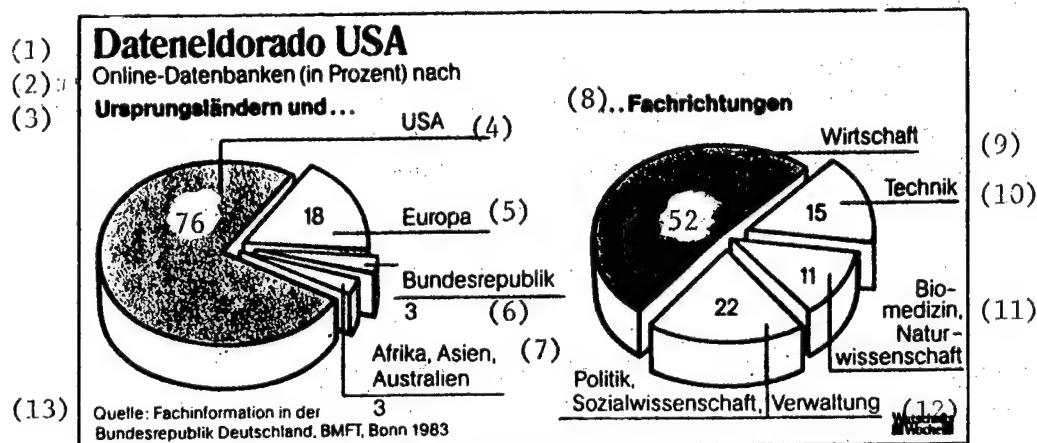
Another thing that ruins the joy of even experienced data collectors is the quality of the abstracts. "Quite often, money is being wasted on something you didn't really want because you expected something else," says Hartmut Kroll of the Nukem Corporation. And the information brokers and information specialists who as professional researchers can now find their way through the winding mazes of the data collection, also had problems when they first started out, "After our first research effort, we didn't know what to do with all these mountains of kilograms of paper," Schulte-Hillen admitted. In the interim, a number of information-centers provide, as information brokers, laymen, who at first may not understand the logic of the equipment, with access to the big wide world of data.

Their official language is preferably English, and that may be one of the main reasons why the Germans are staying away. Because even those who are well versed in the English language may run into trouble with the abstracts whose language sometimes has been pared down to the absolute minimum. But since the users in the United States, the Eldorado for data bank suppliers, are even less inclined to do their research in a foreign language, the German-language data bank companies, because of these language barriers, are faced with the decision to either degenerate into entirely subsidized companies or to drive the German customer away and to switch to English.

That, in fact, is why German suppliers have not much of a say. Even state subsidies, which have cost the Federal Research Ministry some DM700 million so far, have not brought sweeping success. Still, several specialized information centers (Fiz) are now in operation. Among them are:

- the Fiz for Technology;
- the Fiz for Energy, Physics, Mathematics;

- the Fiz for Construction and Building;
- the Fiz for Materials, and
- Dimdi, the leading German host computer for medicine.



Key:

1. Data Eldorado United States of America
2. Online data banks (in percent) according to:
3. Countries of origin and ...
4. United States of America
5. Europe
6. Federal Republic of Germany
7. Africa, Asia, Australia
8. ... Sectors
9. Economics
10. Technology
11. Biomedicine, natural sciences
12. Politics, social sciences, administration
13. Source: FACHINFORMATION IN DER BUNDESREPUBLIK (BMFT), Bonn, 1983

However, there is still no German central computer for economic data. The first timid beginning has been made by Fiz-Technology with the adoption of Bliss, an industrial management information system. Data-Star is considered the leading company in the European market in this area. The supplier is the Radio-Switzerland Corporation in Bern. Yet, with its 50 data banks, it is still lagging far behind the Allround series of Dialog Information Services; Dialog is a subsidiary of Lockheed Information Systems in the United States. That host offers more than 200 data banks. Together with the Systems Development Corporation (SDC), a subsidiary of Burroughs, Dialog is

considered the market leader in this fast expanding sector. The connection to about five hosts is sufficient to have access to two-thirds of all available data banks, according to Brigitte Hennemann-Boeckels, project leader for data banks at Handelsblatt Inc.

Declining storage costs will not interfere with the continued expansion of this sector--at least not as far as quantity is concerned. Nevertheless, Hennemann-Boeckels believes that user-specific data selection, processing and coding of the data are the sine qua non for improving the quality of the data collections.

However, whether full-text data banks will win the love of the users, remains to be seen. The first few have started operating. In the United States, entire magazines are already being digitized and available on the video screen, e.g., PLAYBOY Magazine, although still without photos.

[in box]

Helpful Pathfinder

"DER SCHNELLE DRAHT" [The Fast Wire] is the name of a handbook for databank users published by the Ministry of Economics, the Middle Class and Transportation of North Rhine-Westphalia.

The book provides an overview of 239 data banks services (hosts), and information exchange centers.

Information is also provided by:

-- the Online Benutzergruppe [online user group] of Deutsche Gesellschaft fuer Dokumentation [German Society for Documentation], Westendstrasse 19, 6000 Frankfurt 1, Telephone 0 69/74 77 61;

-- Gesellschaft fuer Information un Dokumentation [Society for Information and Documentation] (GID), Lyoner 44-48, 6000 Frankfurt 71, Tel: 0 69/6 68 71;

-- AFI Arbeitsgemeinschaft Fachinformationen e.V. [Technical Information Working Group, Inc], Herriotstrasse 5, 6000 Frankfurt 71, Tel: 0 69/6 68 71.

Beginners can obtain information at a session of online users to be held from 11-13 March at Bad Soden, with a concurrent lecture series on the subject and an exhibition by data bank suppliers of the entire spectrum of data banks. Fee for members is DM 90, for nonmembers DM 135. Admission to the exhibition is only DM 15.

7821

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FEDERAL REPUBLIC OF GERMANY

EXPERT URGES NON-SPECIALIST INPUT INTO APPLICATIONS DESIGN

Duesseldorf WIRTSCHAFTSWOCHE in German 8 Feb 85 pp 96-102

[Text] Non-specialists should have influence on the application of new information technologies, urges Klaus Hoering, manager of the Management Science Institute for Organization and Automation (Bifo) at the University of Cologne.

Many publications and conventions are reporting on the tremendous development of telecommunications. The non-specialist, too, is realizing that this development takes place in great leaps--not to say in a revolutionary manner. Some people feel it is too much for them to sort out from the many details what is important to them. It almost appears as if the discussion of technologies and standards is getting the upper hand, while questions of applicability, usefulness and economics are being neglected.

This situation makes it necessary for the non-telecommunications specialist to defend his interests and to know what is of importance to him in order to maintain a balance between technology and application. If today the switches are being set for the future, he can and must sit in the switch tower. What are the questions and problems we are dealing with here?

Since the technological possibilities for telecommunications are expanding, everybody must have a basic knowledge of these matters, just as almost everybody today is able to discuss automobiles or airplanes. Today, usually everybody planning a business trip knows enough about train and plane connections, about the difference between a taxi and a rental car, and he has at least a vague idea of their rates. Similarly, today everybody should have some basic knowledge about the possibilities of electronic text communication and the--in many respects improved--telephone.

Since the introduction of teleprinting (telex) about half a century ago, no new text communications services were added over the 50 years that followed. In this decade, on the other hand, we have one innovation after another: Teletex and telefax have been introduced, and so have been the videoscreen and telebox. Starting about 1987, ISDN (Integrated Services Digital Network) will be introduced, which will be a major channel for future interoffice voice, text, data and picture telecommunication.

ISDN will make it possible to transmit a teletex letter about 25 times, and a page of video-screen text about 50 times faster than today. And this is still done by so-called narrow-band transmission which will be augmented in the 1990s by wide-band channels with light conductors and copper cables, that will permit video telephone, video conferences, and cable television.

It is also important to know that today all office equipments can be linked by networking, so that they can communicate with one another. Whether the medium is a Local Area Network (LAN) or a digital branch exchange is not important for the user and non-specialist at this time. If he wants to know the background--just as some people are interested in how the valves of their automobile engine work--he can obtain more detailed information about it.

How this technology will be used eventually, cannot be anticipated today with any more ease than it was possible for Mr Daimler to predict the usefulness and wide-spread use of the automobile. But it is possible to determine and test what the existing technologies allow us to do, and how much they cost.

Numerous analyses and studies have confirmed that office work is, to a large extent, related to communication. In spite of this, interest in electronic text communication appears to be relatively low. Rather, the growth of teletex is guarded, and the use of "electronic mail" in the sense of electronic message systems is negligibly low in Germany, while in the United States currently about half a million office workers are communicating in this manner.

If the United States has recognized its need for this kind of electronic text communication under circumstances that were similar to ours and if the use of these systems is increasing by 50-100 percent a year, we can only reach the conclusion that the relevance of these systems is not sufficiently appreciated in Germany.

For the determination of the need for, and relevance of, new office systems, it is not sufficient to undertake analyses and studies. The potential user must have experienced much of it in his own work in order to know what can be done, what the limits are, and under what conditions it is helpful. The attitude towards such experiments shows the importance that is being given to the new office and information technologies. This affects not only the systems specialist, and certainly not the computer freak, who only plays with computers anyway, but particularly the "normal" person in the office.

Neither current fashion fads nor fortuitous technical feasibility are decisive factors for introducing new services. Rather, one has to ask how one wants to, or must, communicate in order to do business, how the organization's reaction capability can be accelerated, and how the results can be improved.

More and more examples show how the application of these new information technologies is opening up new business opportunities and prospects or how competitiveness can be enhanced through faster processing. We have statistical indicators for that which show whether or not it is economically advisable to invest more in information technology, and whether and how this should be combined with other organizational or business measures.

In all these considerations, the detail design of the telecommunications technology plays only a minor role. Above all, the user must define his market strategy, his competitive factors, and then his telecommunications requirements.

Those who want to set the switches in the field of telecommunications and office technology must recognize that they cannot accomplish this all by themselves, but that the cooperation of many departments and people in the organization is needed.

This requires mutual information exchange, coordination and the ability to compromise. In order to achieve this, logical and wisely coordinated action is necessary. The larger the number of people in an office affected by the changes in communications technology, the more this aspect must be emphasized. We know from similar attempts to introduce new information technologies that this requires thorough organization. Apart from educating and providing basic information to wide circles, there are additional measures that are of basic interest today in many organizations.

-- Analyses of interoffice communication to determine basic requirements and subsequent planning of further steps;

-- Planning and setting up pilot installations with new telecommunication and office technology systems;

-- Evaluation of experiences with the introduction of new data collection systems for economic justification and the most user-friendly design of the work place in the organization.

It is most important that everybody--even if he does not consider himself a specialist in the information and communications technology area--be able to influence the application of the new technologies without having to get too deeply involved in technical details. Furthermore, the new technologies cannot be successfully introduced for the benefit of workers and the organization, unless all affected parties provide input--at least with respect to the abovementioned aspects.

7821
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NETHERLANDS

EC MULLS BROADBAND GLASS FIBER CABLE NETWORK

Rotterdam NRC HANDELSBLAD in Dutch 7 Feb 85 p 14

[Article by Zeger Luyendijk: "Glass Fiber Cable Network Proposed For The Entire EEC"]

[Text] The Hague, 7 February--A glass fiber cable network from Athens to Edinburgh and from Toulouse to Copenhagen, to bridge all gulfs between the ten member states with respect to electronic communication, telephone and computer communications. Is this possible?

That was roughly the question the European Commission presented last year to a group of consultative bodies of the postal services of Great Britain, Italy, France, Germany and the Netherlands. Result of the investigation: yes, it is possible, even necessary, considering that after about 15 years an overwhelming demand is expected for television programs, computer communications, two-way cable services and the phenomenon of videophone.

Such a network could be vital for Europe's future as an industrial power beside the United States and Japan because it would offer one standard, making it possible for the entire European telecommunications industry to rise above the stranglehold of national interests and national standards.

"Apparently, that is very necessary," J.P.M. Akerboom, deputy chief of the central department of the PTT's telex and data communication, says. He was delegated by the Dutch participant in the investigation, Nepostel, the consultative agency for postal services and telecommunications, to help answer the question of the European Commission.

Language

"Europe is indeed behind, compared to the United States and Japan, just as everybody says," Akerboom says, "but it is relative." He shows a table which demonstrates that Europe is 1 million telephone connections short compared to Japan. "Not many," he thinks, "because that represents a lag of a quarter of a year in production. The difference Europe-United States is 3 years for telephones. But look, every lead is inherent to the nature of the country or continent. As far as telex is concerned, Europe has a big lead. Because of different languages, we are apparently more text-minded

In the United States everyone speaks English, life is fast there, and therefore people pick up the phone more easily. For instance, in Japan the facsimile--transmitting sheets of paper--has assumed enormous proportions because of the language."

Where Europe has clearly lagged behind, is in the use of computers, but Akerboom thinks that, considering the growth of 45 percent over 3 years in using rented lines (telephone lines for computer connections), Europe is on its way to close this gap.

Therefore, the danger is not so much in what the United States or Japan is doing, but in what Europe fails to do.

Video Services

"What is coming at us?" Akerboom says. "Maybe, we are not thinking about it enough. Apart from telegrams, the PTTs in the EEC expect a strong growth in the demand for all services and connections." This becomes apparent from the prognoses of the PTTs (which, according to Akerboom, should be taken definitely with a grain of salt, considering the fast changes) of a doubling of the number of telephones in the year 2000 to 200 million.

"In any case," Akerboom continues, "the use of computers will increase very much over the next few years and with it, the demand for connections. We won't have to wait much longer for the videophones. Videotext services such as Viditel and Teletekst will expand; 10 million terminals are expected in 2000. Our question regarding all this, was: how is all this traffic supposed to flow?"

The basis for all these developments is the chip. Its communication is digital, in a binary code (zeros and ones), and not-- like in most present traffic exchanges--analog, using electric currents of different values. Therefore, all European countries are replacing their old analog exchanges by digital telephone exchanges.

According to plan, in 1990 Europe will have a digital transmission network of 64 kilobits per second, the ISDN [Integrated Service Digital Network], a narrowband network for every household but not suitable, for example, for large quantities of data. For that, a broadband network of 35 megabits is required.

Most countries do not have any plans for such a network, or they have very different ideas. However, a number of experiments are being done in Germany (Bigfon), France (Biarritz) and Great Britain (Milton Keynes). There is a risk that, because the connections between the EEC countries cover the narrowband ISDN--the standards of which have been agreed upon--, a broadband, European network will fall into the background. And then each country will build its own broadband network. The European Commission not only wants to prevent the communication industries in the EEC from strangling each other while promoting their own broadband communication systems, but they would

also like to see the users of such a network--and of those, first of all the big industries--communicate easily across borders.

Akerboom: "Traditionally, each country has its own, strong telecommunications industry which has been supplying systems for years. Governments listen more than ever to those companies; they are big employers--just as much money is at stake in the European telecommunications industry as in the car industry--and they are important for acquiring a position in an economically valuable high-tech [fields]."

The development costs for new systems are so high and the competition is so tough that the industries push their systems through as the standard in other countries also in order to keep going by way of export.

There are consultative bodies for coordinating, "standardizing", different telecommunications systems. The most important one is ITU [International Telegraph Union] with its study group CCITT [International Consultative Commission for Telephone and Telegraph]. This is an organization which since 1863 has devoted itself to harmonization of systems and so-called protocols (e.g. access numbers) for the entire world.

Apart from the ITU, the European PTTs discuss standards in the CEPT [European Conference for Postal Service and Telecommunication]. Neither body has been successful lately in cutting the knot.

"Decisions in CEPT are, for instance, taken on the basis of consensus," J. Dijk, senior consultant with Nepostel, says. "That makes the debates even more difficult. But, whereas before, talks were calm and factual, now the debates are full of the industrial interests mentioned and politics. For example, for weeks there are meetings on whether East Germany should or should not get a country number. CEPT and ITU have become nice panels for politicians; one gets some publicity; one's voice can be heard. The power of both bodies crumbles away because of the lobbying of industry. And industry does not realize how useful a standard is because it would open up all of Europe."

"Thank God, we have been able to save the telephone and can now make telephone calls to most of the world," Dijk says.

But things seem to go wrong with mobile telephone systems. Four years ago the World Administrative Telecommunications Organization, which manages transmission frequencies over the whole world and only convenes once every 20 years, released the 900 megahertz band for mobile telephone systems because the 450 megahertz band filled up quickly. CEPT started talks about a standard.

Apparently, industry does not create pressure for mobile telephone systems but the consumer does. For instance, the demand for car telephones is so big that several European countries are already using the 900-band with their own--and therefore, different--systems. "CEPT has been talking about a standard all that time but is always running behind the facts. There is a risk that we will be driving through Europe with ten different boxes in our cars," Akerboom says.

Broadband

The European Commission is looking for the solution for the European differences in broadband communication in a cable network to be spread over the EEC. Using glass fibers--studies of consultative bureaus show--is supposed to be the cheapest, 7 billion Dutch guilders. Akerboom: "New terminals will have to be developed for it. Excellent, because of what the result will be: one European standard which everyone can follow without fear of strangulation, and new electronic products can mature in peace."

For such a network, Europe has been divided into 60 densely populated areas with a high concentration of industry. Sixty of the 273 million Europeans in the EEC, 25 million households, live in those areas. Of those 25 million, only 1/4 percent can afford two-way cable services. Per glass fiber, it requires earnings of, on the average, 3000 ECU a month per member of the household, for two-way services. Only 12.5 million households are interested in the transmission of television programs and can afford it, too. It appears that, of all the companies in these areas, only 2.5 percent are interested in broadband communication: 30,000 companies.

Akerboom: "It seems a narrow basis for such an advanced network, but the price will drop as the number of subscribers rises. And existing plans for glass fiber cables such as between Rotterdam, The Hague and Amsterdam, may later on be coupled to the European network. Of course, it is up to the different governments."

12433
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16 April 1985

NETHERLANDS

STATUS OF GLASS FIBER CABLE INDUSTRY, ROLE OF PHILIPS

Frankfurt/Main FRANKFURTER ZEITUNG/BLICK DURCH DIE WIRTSCHAFT in German 19 Feb 85 p 2

[Article: "Importance of Philips in Dutch Cable Industry. German Industry Important Customer and Supplier. Telecommunication Needs to Uphold Demand"]

[Text] (GOE) The Hague--The outlook for the Dutch wire and cable industry is better now than it was two years ago. This branch of industry suffered a severe setback in 1983 from which it has gradually recovered however. Within Nedek (de Nederlandse groep elektrische draad en kabel = Electrical Wire and Cable Group of the Netherlands), the association for this branch of industry which is located in Zoetermeer under the auspices of the FME (Vereniging voor de metaal- en de elektrotechnische Industrie = Association of the Metals and Electrical Engineering Industries), it is believed that particularly in telecommunications many new vistas are opening up. The glass fiber industrie, among others, can profit from this development. Glass fiber is still very expensive today, but within a few years should be able to compete in price with existing types of cable.

As in other countries the wire and cable industry in the Netherlands has its problems. There is keen competition among the European producers. Overcapacity in this area is also not unknown. There is also the danger of Japanese competition which could be a factor particularly in the export markets, as Japan is clearly a presence in terms of large-scale export projects. According to Nedek, attempts are being made with regard to certain types of wire and cable to conclude an agreement on self-imposed restraints with Japan, and this will likely concern export markets. There are additional difficulties in this branch of industry in terms of approving cable which does not conform to safety standards, in particular the harmonized safety standards of the EC. Nevertheless, the prognosis for this branch of industry is rather good, above all for low-power cable. The entire communications field provides a good outlook for the future. Innumerable amounts of cable will be required in this area, particularly glass fiber cable and coaxial cable. New cable networks must be laid and existing ones removed or replaced. All of the equipment in the communications field involves extensive wiring.

In the area of energy production the developments are less spectacular. A certain degree of decentralization will take place in energy production in

which the trend will be to go from large-scale to small-scale output. Therefore, in most cases existing networks will be adequate. However, it is also possible that there will be a demand for new cable. The PTT (State Postal and Telecommunications Service) is already a very big customer of Dutch industry. But even banks and other private institutions are establishing links to one another and setting up data bases.

If the Dutch wire and cable industry is compared to industry overall, it is not small as compared to the same branch in other European countries. Its scope is difficult to express in figures. According to Nedek's estimates, turnover is about a billion guilders. A few years ago it was even somewhat higher, while today it has fallen slightly below that figure. This reduction is primarily a result of smaller investments in energy-producing plants. The wire and cable branch in the Netherlands includes that part of industry which supplies power cables and wiring, in other words, cable and wiring through which electrical current is carried in order to distribute electrical power. This involves primarily high-, medium- and low-voltage cable, coaxial cable, winding wire and glass fiber cable. This branch of industry employs between 3000 and 3500 people.

Using figures to describe this branch of industry in the Netherlands is so difficult because there are really only two groups of manufacturers involved. One group consists of several independent companies of which the largest is the B.V. Twentsche Kabelfabriek in Haaksbergen (turnover approximately 100 million guilders). This company, like the other smaller independent manufacturers, is a private company which is not obligated to publicize its company figures. The other group of companies is within the Philips concern, which in turn means that their figures are included in those for the whole company. The largest of these subsidiaries which is wholly owned by Philips is the NKF Groep B.V. with its headquarters in Rijswijk near The Hague and which has branches in Delft (NKF Kabel B.V.), Amsterdam (Draka Kabel B.V.) and Waddinxveen (NKF Kabel B.V.).

In 1983 the NKF group had a turnover of 596 million guilders including its activities abroad. Another Philips subsidiary is Pope's Draad- en Lampenfabrieken B.V. in Venlo which supplies Philips itself as well as third parties, and whose technical and commercial management is in the hands of the NKF group. A spokesman for the NKF group did not want to preempt the 1984 Philips business report which will provide some information on the course of business in the wire and cable branch and the outlook for this branch as it did last year under the title "Products and Systems for Professional Applications."

In accordance with information supplied by the association, the 1983 business report says that the demand for cable products and systems declined in Europe in 1983. This was true for government organizations and semi-nationalized companies, both of which purchase a substantial portion of all cable products, and for industry. Accordingly Philips has garnered this important Dutch market. Here, too, there is talk of restricting investments and postponing already planned projects, the result of lower income from crude oil for the OPEC nations and the budgetary problems of other governments. For Philips and its subsidiaries mentioned above, sales of medium- and high-voltage cable and

telecommunications cable were lower in 1983 than in 1982. In the case of low-voltage cable, sales increased slightly.

Glass fiber cable is of ever increasing importance for the cable industry and for Philips. It will help this branch of industry to a brighter future; on one thin cable more information can be transmitted more quickly than ever before.

In the Netherlands a small-scale project is underway which involves the use of glass fiber cable. It is a link between Eindhoven and Helmond in which Philips and the PTT are participating. In addition there are several other glass fiber networks, including those between the financial institutions in Amsterdam.

Philips substantially increased its glass fiber production capacity for communications in 1983. A new plant for producing these fibers was opened in Eindhoven. Philips concluded an agreement with the Dutch postal service in 1983 for a project involving a new optical transmission system for which the first cable using the monomode principle in continental Europe has been laid in Rotterdam. From the FRG Philips has received an order for a new type of 20 kV cable in which power lines and glass fibers have been combined for the first time. Philips is also involved in the BIGFON project of the FRG postal service and will supply and install an integrated broadband glass fiber network for interactive communications in Nuremberg and Hamburg.

In addition to glass fibers Nedek mentions other new developments which deal primarily with insulation materials and their processing or with the speed at which power is transmitted through the cable and finally also with the question of to what extent the signal in the cable may need occasional boosting. The major development remains glass fibers, however, and in the Netherlands they are primarily handled by Philips.

About 40 percent of sales in the Dutch wire and cable industry take place outside the country's borders. According to the association, in 1983 wire and cable exports amounted to 394.4 million guilders (497.4 million guilders in 1982). Since cable products are not particularly well suited for export due to their high transportation costs, the Dutch manufacturers' best customers are their neighbors Belgium and the FRG. Nevertheless, wire and cable are not exported exclusively to neighboring areas. They are also destined for turnkey projects in distant lands. This is true, for example, for the NKF groups in the Middle East which are providing the entire cable system for a power supply project. The Twentsche Kabelfabriek limits itself almost exclusively to the domestic market.

Imports of wire and cable into the Netherlands in 1983 amounted to 336.5 million guilders (368.1 million guilders in 1982). Its largest supplier has been the FRG.

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16 April 1985

NORWAY

POST OFFICE INAUGURATES 'POSTEX' TELEDATA SYSTEM

Oslo AFTENPOSTEN in Norwegian 15 Mar 85 p 36

[Article by Ulf Peter Hellstrom: "Postal Service Teledata Starts Monday"]

[Text] On Monday the Postal Service will start up the first public teledata project in Norway. "Postex" will be available in a limited number of post offices where visitors can themselves utilize the information terminals which are connected to the service. In addition to information from the Postal Service itself, in the beginning phase the service will contain tourist information from Gudbrandsdalen and information from the national lottery.

The same day the Telecommunications Administration will begin tests of the technical equipment from Tandem-Data Logic which will enter the ordinary teledata service later this year.

"The Postal Service is the country's biggest distributor of written information. Developments are moving in the direction of a larger part of it is gradually being spread by electronic means. The Postal Service wants to be in on this," said director general Bjorn Flage Pettersen of the Postal Service.

The leader of the teledata project for the Postal Service, Arnt Kamperud, said that the Postal Service is installing teledata terminals in post offices in central Oslo, the main post offices in Moss, Fredrikstad, Sarpsborg, Halden, Askim and Lillehammer. Seven travel bureaus and three tourist offices at Otta, Vinstra and Lillehammer will also be tied to the same data base which the Postal Service has rented space in at the Norwegian Informatikk Center. Televerket Bedriftsintern Kommunikasjon (TBK) supplies the terminals which come from the English company Xylyx.

"Will the Postal Service invest in installing teledata terminals in all the country's 450 larger postoffices?

"First we must get some experience with the public's use of this service, which in the test period will be free. Gradually the service will probably

be expanded to more and more postoffices. When the service comes into more common use, it is the intention that the terminals will be equipped with coin boxes and later equipment for credit cards, so that the public will pay for the information produced," said Kamperud.

The Norwegian Travel Council has assisted with tourist information which is put in. It includes a description of areas which are covered by the three connected tourist offices in South, Central and North Gudsbrandsdalen. Lodging possibilities, hotel capacities, local activities, ski slopes, ski lifts, prices and routes of travel will be available for users.

The Postex service is temporarily using the English press telecommunications service, which NSI uses. The ordinary teledata service which the Telecommunications now works with will be adapted to the European CEPT standard. Kamperud said it would later be a cost question whether the Postal Service would upgrade its terminals to the CEPT standard.

At the same time as the Postal Service is starting up its teledata project, the Telecommunications Administration is starting the takeover tests of the technical equipment which will be the kingpin in the official ordinary teledata service in Norway. The equipment and software is being delivered by the computer company Tandem Computer and the advisory computer firm Data Logic.

"We intend to begin test operation in April, and ordinary operation is planned to begin in the last quarter of this year," said Chief of Information Thor Viksveen in the Telecommunications Administration.

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16 April 1985

NORWAY

STK FIRM EXPERIENCING DELAYS IN PHONE EXCHANGE CONTRACT

Oslo AFTENPOSTEN in Norwegian 18 Feb 85 p 26

[Article by Ulf Peter Hellstrom: "Delayed Telecommunications Deliveries to Norway--ITT Now Working Under Extreme Pressure"]

[Text] Antwerp, February. "The reason why the first digital telephone exchange from STK [Standard Telefon og Kabelfabrik] to the Telecommunications Administration will be 7 months delayed is that the development of a couple of central electronic components and the adaptation of important software has taken longer than expected." This was said by Marcel Destuyver in the Bell Telephone Manufacturing Company [BTM] in Andwerp. The first telephone exchanges which come under the billion contract between STK and the Telecommunications Administration are coming from this ITT firm, where they are working under extreme pressure on the Norwegian delivery.

"Just the software for a system-12 telephone exchange is about as extensive and complicated as the one which was used in NASA's moon program of the Apollo series. We must put in 600,000-700,000 instructions to get the system off the ground," said Destuyver. He is central in BTM which is one of the main parts of the American ITT activity in Europe.

STK won the tug of war for the billion-sized contract with the Telecommunications Administration for supplying the telephone exchanges which will be the backbone of the future telecommunications network in Norway. The STK bid is based on the ITT-developed telephone exchange system 1240, which gives rise to a new form of decentralized control and distribution of telephone traffic.

Time Pressure

The strict demands which the Telecommunications Administration applied meant that STK and mostly the development centers in Belgium still must adapt

and further develop the exchange. In December came the report that time pressure had caused the first exchanges for Okern in Oslo and Trondheim to be delivered 7 months later than planned. The delays will gradually be reduced, so that the entire order will be delivered within the original time frame through the 1980's. Destuyver does not deny, however, that he will not be able to reduce the delays on the first exchanges.

"The problem is utilization of key personnel in the laboratories. Such demanding development work also requires the coordination of a number of scientists and development personnel to get more or less the same forward progress underway."

"Last summer the experts began to suspect that the testing of the new integrated circuits which go into the Norwegian version of System-1240 would perhaps take more time than usual. Such circuits are usually tested four times, but now we require five such tests," said Destuyver.

STK In

System-12 makes possible the decentralization of switching of telephone conversations to a much greater extent than previously, said John Riisnes at STK. The Norwegian communications company, which still has ITT as its majority stockholder, will gradually take over production of the digital telephone exchanges in Norway. A number of STK people are now in training in BTM, and the hope is that STK at some time in the future will built up production and competence in System-12 technology which can create fertile soil for successful exports in a few years. The first goal is production of 250,000-300,000 lines in Norway.

Priority

The telephone exchanges which will be delivered to Norway in the coming years are the most advanced which have so far been developed within the System-12 series. Norway is the first country to get this version, while the new exchange has now also been ordered by China, Switzerland, Turkey and Yugoslavia. The Norwegian delivery is therefore being given top priority in the BTM laboratories and offices around Belgium. Besides BTM has about 9,000 employees and sales of about 28 billion Belgian francs, which corresponds to about 4 billion Norwegian kronor.

A tour around the Belgian BTM plants in Belgium gives the clear impression of work places changing as the result of new techniques in production and factories production processes. The workforce was formerly dominated by skilled workers in large factories who worked by traditional industrial processes where the raw materials were iron and other heavy metals. Now a growing part of production costs of the digital products are tied to development of the expensive software, and the engineers and highly trained personnel make up a growing share of the declining labor force.

150 Men in Training

The Telecommunications Administration's training of key personnel in Belgium is moving along, despite the delays of the first telephone exchanges. Civil engineer Alf Nilsen in the Directorate of Telecommunications said that most of the 150 Norwegians who are being trained in the System-12 are experienced civil engineers from the different telecommunications districts.

"We have begun the training of personnel as planned in this test center in Antwerp. Actually we do not test all the functions of the system at this test center. When the first exchanges are finished we will expose them to our own comprehensive test programs," said Nilsen, who plays an important part in the directorates program of building competence to operate and maintain the digital telephone exchanges of the future.

People from the Telecommunications Administration remain for one-half year in Belgium before they go home. These are system specialists who in the coming years will train their colleagues out in the districts. The directorate has established its own project group which consists of 15-20 people, including Nilsen. He believes that one needs 2-3 years before one has a full knowledge of the system.

The Telecommunications Administration's System-12 exchanges will be controlled from computer displays which will be supplied by Tandberg Data. This Norwegian computer firm can become the supplier of computer displays also to the West German Post and Telecommunications Directorate if the West Germans decide to invest in System-12 in converting the West German telephone net to digital equipment.

9287
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UNITED KINGDOM

NORTHERN TELECOM TO PURCHASE MICROCOMPUTERS FROM FINLAND

Helsinki HUFVUDSTADSBLADET in Swedish 8 Feb 85 p 19

[Article by Birgitta Jernvall Ingman]

[Text] Over the next 4 years, the Nokia Corporation will supply microcomputers and video display terminals worth approximately \$40 million (about 270 million marks) to Great Britain's Northern Telecom. A continuing OEM cooperation agreement was signed in Helsinki yesterday.

That agreement is the end result of an 18-month-long process--and the continuation of cooperation that has already existed for a year. It covers product development and marketing in connection with both the current and the next generation of terminal systems.

Nokia will supply tens of thousands of MikroMikko 2 computers and video display terminals (the exact figures were not announced) for Northern Telecom's so-called Vienna system. The system has been marketed in Europe for a year, and the first steps have been taken on the Canadian market. If sales go well in Canada, the U.S. market will be next, according to Barry Eames, head of Northern Telecom's European operations.

Nokia chief Kari Kairamo said he was delighted with the cooperation agreement on three counts. First, because Nokia was chosen from among so many interested suppliers. Second, because the company will now be cooperating closely with a very well-known name in the information technology sector. And third, because the agreement considerably increases the production volume for Nokia's information systems.

Field of 123 Suppliers

Barry Eames said that Northern Telecom had contacted 123 suppliers all over the world and visited nearly 30 manufacturers.

"We made a thorough survey of the market, and Nokia was the only company that could offer what we were looking for--that is, equipment that could hold its own for 10 years to come," said Eames.

Heikki Keranen, head of the Nokia Information Systems division, said that the deliveries to Northern Telecom represent barely 10 percent of Nokia's production volume and that capacity will be sufficient, since a new computer plant will be completed this summer.

Both sides emphasized that no dependent relationship is involved. Eames characterized their cooperation as being a joint development partnership.

It is pointed out at Nokia that the agreement creates new opportunities for both the company and its distributors in the form of new products and new areas of application. At the same time, sales will be stimulated by stepped-up marketing. The result will be a larger volume of production and exports for Nokia's information systems. The company's exports are expected to increase by 50 percent this year, and over half of the production from the new computer plant will be exported.

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